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# **Springboard User Manual Documentation**

***Release 1.02***

**VIA**

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<b>1</b>	<b>Introduction</b>	<b>3</b>
1.1	Copyright . . . . .	3
1.2	Trademarks . . . . .	3
1.3	Disclaimer . . . . .	3
1.4	Regulatory Compliance . . . . .	3
1.5	Battery Recycling and Disposal . . . . .	4
1.6	Safety Precautions . . . . .	4
1.7	Box Contents and Ordering Information . . . . .	5
<b>2</b>	<b>Product Overview</b>	<b>7</b>
2.1	Key Features . . . . .	7
2.2	Product Specification . . . . .	7
2.3	Layout Diagram . . . . .	9
2.4	Product Dimensions . . . . .	9
2.5	Height Distribution . . . . .	9
<b>3</b>	<b>I/O Interface</b>	<b>15</b>
3.1	External I/O Ports . . . . .	15
3.2	Onboard Connectors . . . . .	20
<b>4</b>	<b>Jumpers</b>	<b>37</b>
4.1	Power On Select Jumper . . . . .	37
<b>5</b>	<b>Hardware Installation</b>	<b>39</b>
5.1	Installing 3G Module on Mini Card Slot . . . . .	39
5.2	Inserting 3G SIM Card on SIM Card Slot . . . . .	39
<b>6</b>	<b>Driver Installation</b>	<b>43</b>
6.1	Android Driver Support . . . . .	43
6.2	Linux Driver Support . . . . .	43
<b>7</b>	<b>Mating Pin Header and Connector Vendor Lists</b>	<b>45</b>
<b>8</b>	<b>Indices and tables</b>	<b>47</b>



Documenting parts and features of the VAB-600 Springboard.

**Warning:** This document is work in progress.

The online documentation can be accessed in our [Documentation Directory](#). The source code of this documentation is on [Github](#). You can contribute to the docs there. Also, you can use that source to compile these docs in any other form supported by Sphinx, our documentation engine: PDF, epub, ...



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# Introduction

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## 1.1 Copyright



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VIA Technologies, Inc. reserves the right to make changes to the products described in this manual at any time without prior notice.

## 1.4 Regulatory Compliance

**FCC-A Radio Frequency Interference Statement:**

This equipment has been tested and found to comply with the limits for a class A digital device, pursuant to part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case the user will be required to correct the interference at his personal expense.

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**Note:** The changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

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**Note:** Shielded interface cables and A.C. power cord, if any, must be used in order to comply with the emission limits.

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**Note:** The product described in this document is designed for general use, VIA Technologies assumes no responsibility for the conflicts or damages arising from incompatibility of the product. Check compatibility issue with your local sales representatives before placing an order.

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## 1.5 Battery Recycling and Disposal

- Only use the appropriate battery specified for this product.
- Do not re-use, recharge, or reheat an old battery.
- Do not attempt to force open the battery.
- Do not discard used batteries with regular trash.
- Discard used batteries according to local regulations.

## 1.6 Safety Precautions

- Always read the safety instructions carefully.
- Keep this User's Manual for future reference.
- All cautions and warnings on the equipment should be noted.
- Keep this equipment away from humidity.
- Lay this equipment on a reliable flat surface before setting it up.
- Make sure the voltage of the power source and adjust properly 110/220V before connecting the equipment to the power inlet.
- Place the power cord in such a way that people cannot step on it.
- Always unplug the power cord before inserting any add-on card or module.
- If any of the following situations arises, get the equipment checked by authorized service personnel:
  - The power cord or plug is damaged.
  - Liquid has penetrated into the equipment.
  - The equipment has been exposed to moisture.
  - The equipment has not worked well or you cannot get it work according to User's Manual.



- The equipment has dropped and damaged.
  - The equipment has obvious sign of breakage.
- Do not leave this equipment in an environment unconditioned or in a storage temperature above 60°C (140°F). The equipment may be damaged.
- Do not leave this equipment in direct sunlight.
- Never pour any liquid into the opening. Liquid can cause damage or electrical shock.
- Do not place anything over the power cord.
- Do not cover the ventilation holes. The openings on the enclosure protect the equipment from overheating

## 1.7 Box Contents and Ordering Information

- 1 × VAB-600 embedded board (with WM8950 Cortex-A9 processor)
- 1 × DC-In cable
- 1 × Front Panel cable
- 1 × Front Audio cable
- 1 × COM connector cable
- 1 × USB cable (for the optional WLAN USB module)

The VAB-600 basic kit and wifi kit can be ordered on the [VIA Springboard website](#).



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## Product Overview

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VIA VAB-600 is an ultra compact Pico-ITX and highly integrated ARM based board measuring 10 cm x 7.2 cm. Powered by 800MHz WM8950 Cortex-A9 single-core processor, with built-in 3D/2D graphics engine and video multistandard decoder. It is also compatible with Android 4.0 and Linux Kernel 3.0.8 operating systems, and provides an impressive rear and onboard I/O in a compact form factor.

The ultra compact VAB-600 mainboard is optimized for both performance and power to meet the high end demands of advanced industrial, in-vehicle and multimedia applications while offering extremely low power consumption. It suits with various domain applications such as Tablet PC, Industrial PC, Digital Signage, Thin Client and etc.

### 2.1 Key Features

- Powered by WM8950 Cortex A9 Single-Core 800MHz processor
- Integrated graphics processing (GPU) for 3D/2D graphics acceleration
- Compatible with Android 4.0 and Linux Kernel 3.0.8 operating system
- Small form factor and low power design
- Fanless and ultra low power consumption
- Accept wide range of DC power input (12V ~ 24V)
- 4GB onboard eMMC Flash memory
- Onboard DVO (Digital Video Output) for TTL or LVDS display
- Support 4-wire resistive touch screen interface connector
- Support Mini Card expansion slot for USB connectivity 3G module
- Support SIM card slot for 3G SIM card (used for 3G module without built-in SIM card slot)
- Support Micro SD Card slot for expandable storage
- Support RJ-45 LAN (Fast Ethernet), Mini HDMI and Mini USB 2.0 ports

### 2.2 Product Specification

- Processor
  - WonderMedia (WM8950) Cortex-A9 Single-Core 800MHz
- System Memory

- Onboard 1GB DDR3 SDRAM 1066
- Graphics
  - Built-in 2D/3D Graphics Engine to support OpenGL® ES2.0
  - Built-in Video Multi-standard Decoder to support MPEG2 MP@HL, H.264 BP/MP/HP@L4.0, VC-1 SP/MP/AP, VP8 and JPEG/MJPEG Decoding
- Flash Storage
  - Onboard 512KB SPI Flash ROM for Boot Load
  - Onboard 4GB eMMC Flash memory
- Ethernet
  - VIA VT6113 10/100 base-TX PHY Chip
- Audio
  - VIA VT1603A I2S Audio Codec
- WiFi module
  - Optional VIA VNT9271B6050 WLAN module (shared with one USB port)
- Onboard I/O Connectors
  - 1 × DVO connector for TTL or LVDS display (corresponding daughter card is required)
  - 2 × COM connectors (supports Tx/Rx)
  - 1 × Micro SD card slot
  - 1 × RTC Battery connector
  - 1 × USB 2.0 connector (for wireless LAN USB module)
  - 1 × SPI connector (for programming SPI flash ROM)
  - 1 × Mini Card expansion slot (for USB connectivity 3G module)
  - 1 × SIM card slot (used for 3G module without built-in SIM card slot)
  - 1 × Key PAD connector
  - 1 × CIR connector
  - 1 × Front Audio pin header
  - 1 × Front Panel pin header
  - 1 × 4-Wire Resistive Touch Screen connector (through VT1603A)
  - 1 × GPIO and I<sup>2</sup>C pin header (for one I<sup>2</sup>C pair and eight GPIOs)
  - 1 × +12V ~ +24V DC-In onboard connector
  - 1 × Battery charger connector with Smart Battery function (manufacturing option)
- Back Panel I/O
  - 2 × Mini USB 2.0 (Type AB) ports
  - 1 × Mini HDMI port (Type C)
  - 1 × RJ-45 LAN port (Fast Ethernet)
  - 1 × DC-In jack (+12V ~ +24V)

- Supported Operating System
  - Android 4.0
  - Linux Kernel 3.0.8
- Operating Conditions
  - Operating Temperature: 0°C up to 60°C (with heat spreader)
  - Operating Humidity: 0% ~ 95% (relative humidity; non-condensing)
  - Storage Temperature Conditions: -20°C up to 70°C @ 90%
- Form Factor
  - Pico-ITX: 10 cm × 7.2 cm
- Compliance
  - CE
  - FCC

## 2.3 Layout Diagram

Layout diagram description table of VAB-600 mainboard:

Item	Description
1	PWR2: DC-In connector
2	SIM1: SIM card slot (used for 3G module without built-in SIM card slot)
3	CN3: Battery Charger connector (optional)
4	BAT1: RTC Battery connector
5	JM3: Power On Select jumper
6	CN7: Front Panel pin header
7	CN9: GPIO/I <sup>2</sup> C pin header
8	SPI1: SPI Interface connector
9	CN11: USB connector (for WLAN USB module)
10	COM2: COM connector 2
11	COM1: COM connector 1
12	CN8: Front Audio pin header
13	CN2: Mini Card expansion slot (for USB connectivity 3G module)
14	TS1: 4-Wire Resistive Touch Screen connector
15	KPAD1: Key PAD connector
16	CN1: CIR connector
17	CN13: Digital Video Output (DVO) connector
18	VM8950 Cortex A9 Single Core processor
19	4GB eMMC Flash memory
20	1GB DDR3 1066 DRAM memory

## 2.4 Product Dimensions

## 2.5 Height Distribution

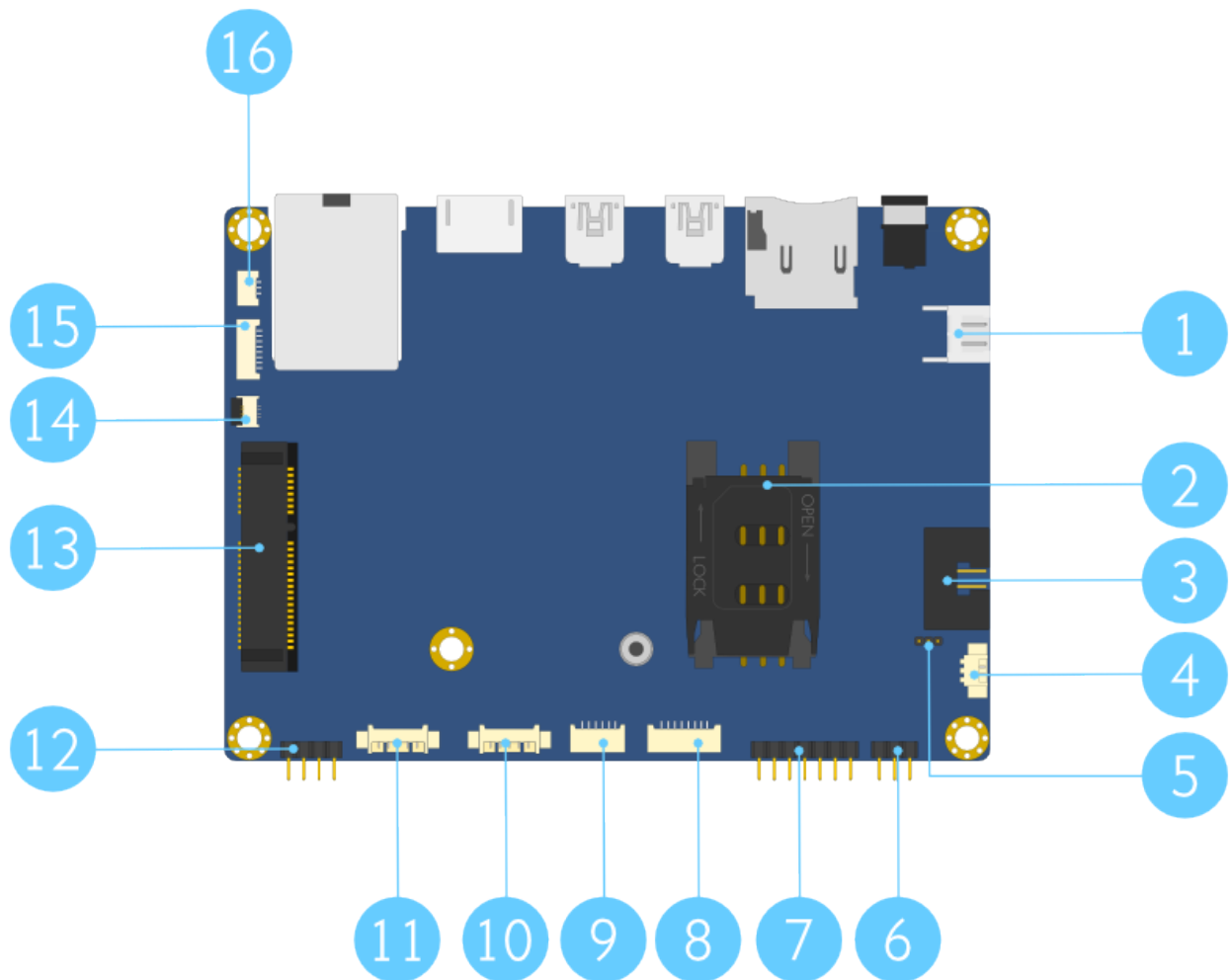


Fig. 2.1: Layout diagram of the VAB-600 Springboard, top view

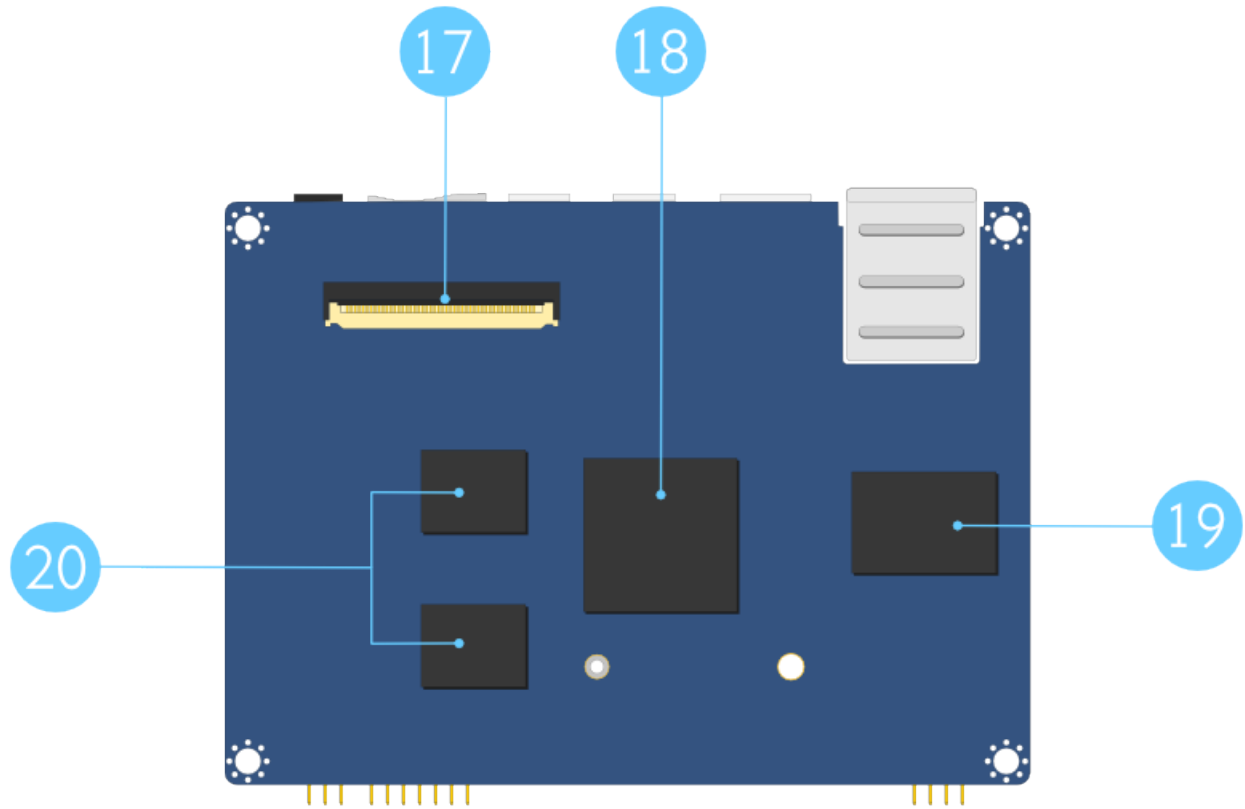


Fig. 2.2: Layout diagram of the VAB-600 Springboard, bottom view

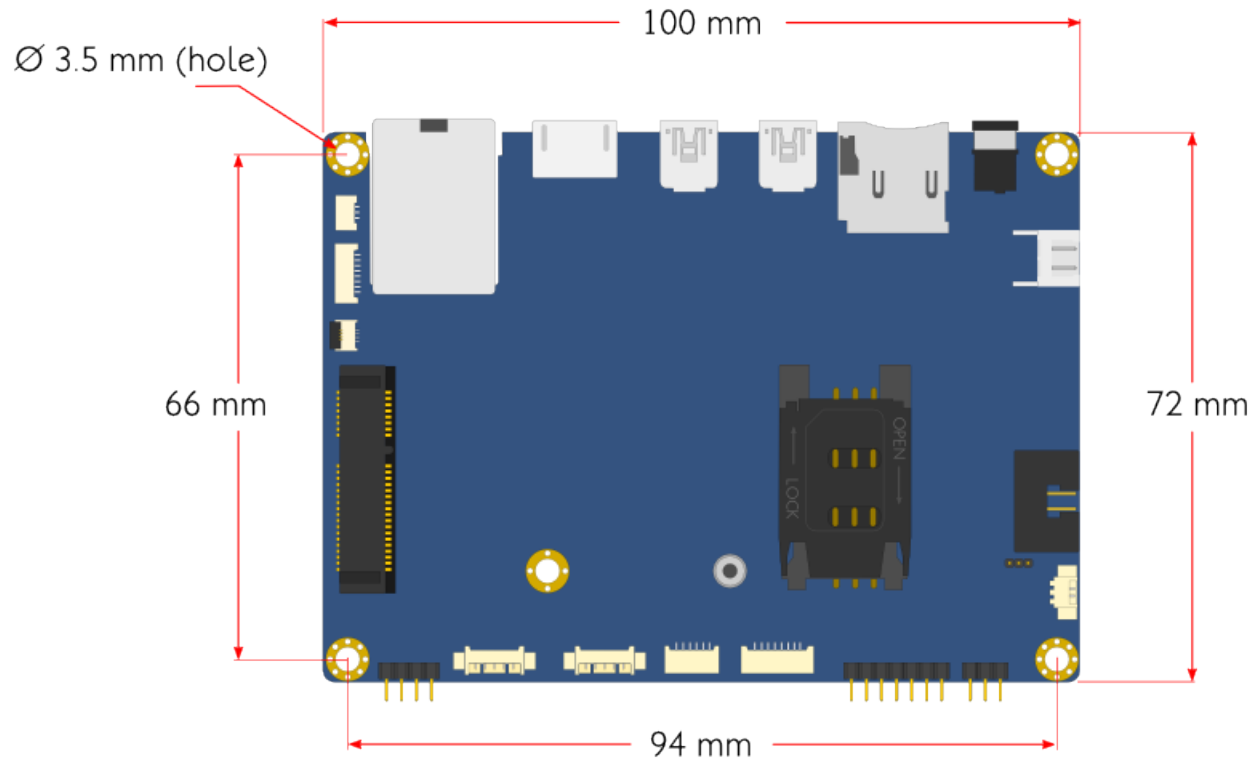


Fig. 2.3: Mounting holes and dimensions of the VAB-600, top view

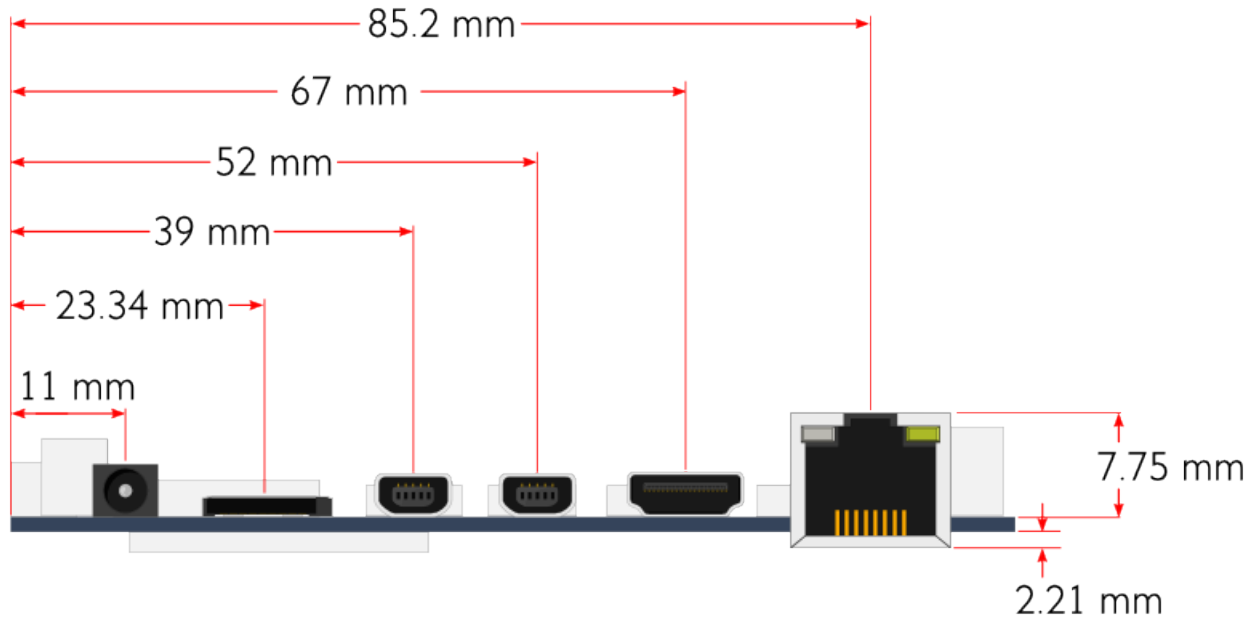


Fig. 2.4: Mounting holes and dimensions of the VAB-600, back view

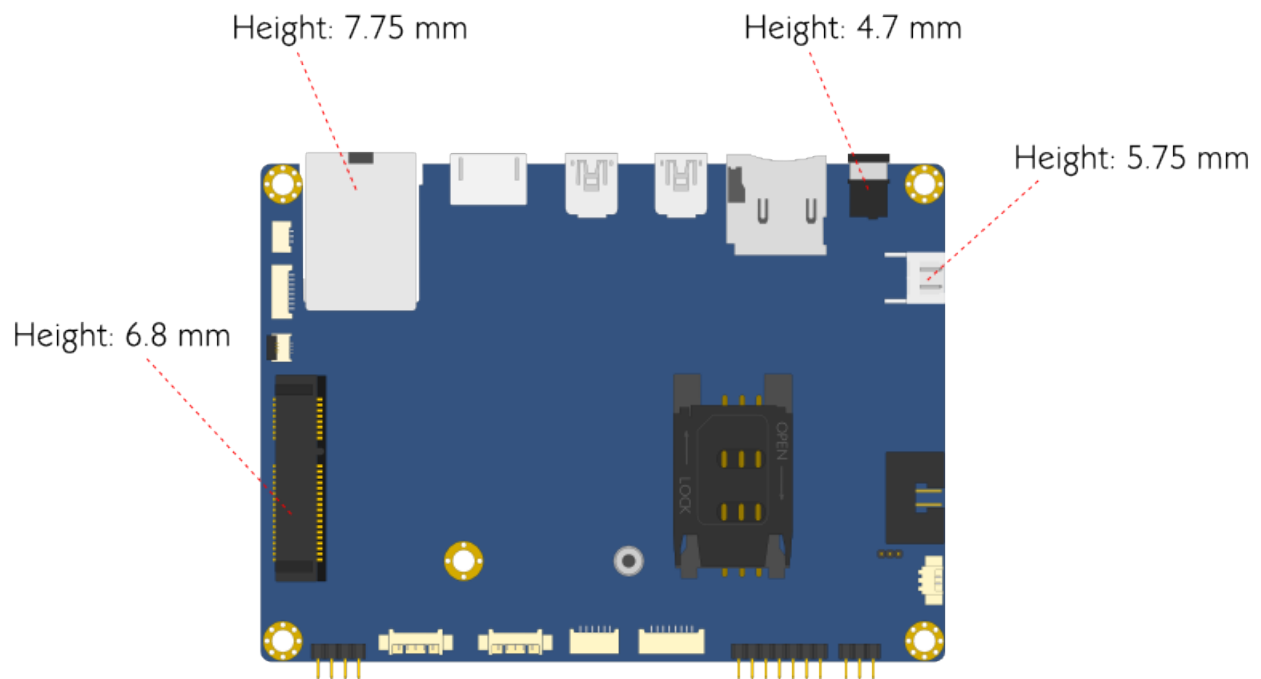


Fig. 2.5: Height distribution of the VAB-600 mainboard, top



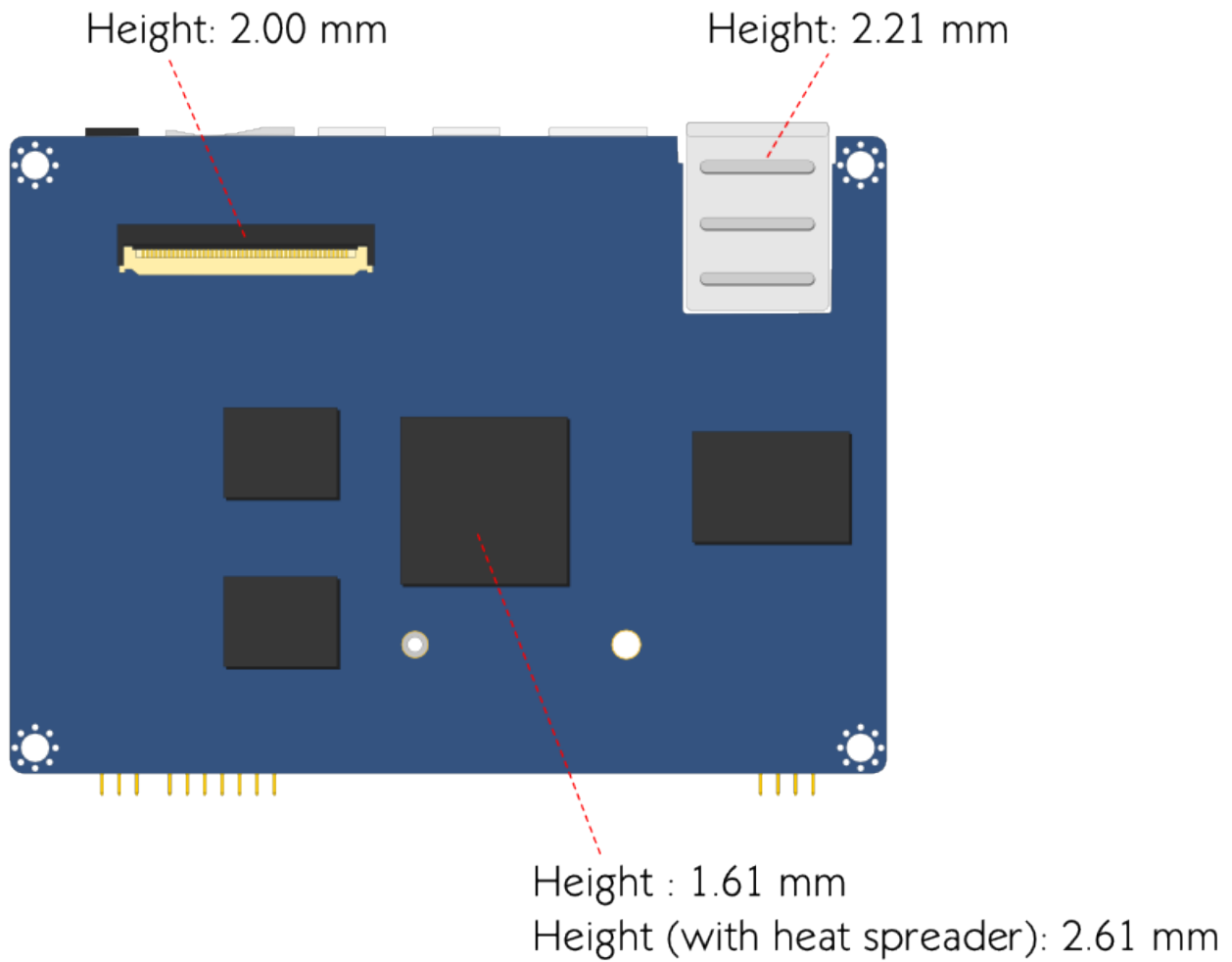


Fig. 2.6: Height distribution of the VAB-600 mainboard, bottom



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## I/O Interface

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The VIA VAB-600 has a wide selection of interfaces integrated into the board. It includes a selection of frequently used ports as part of the external I/O coastline.

### 3.1 External I/O Ports

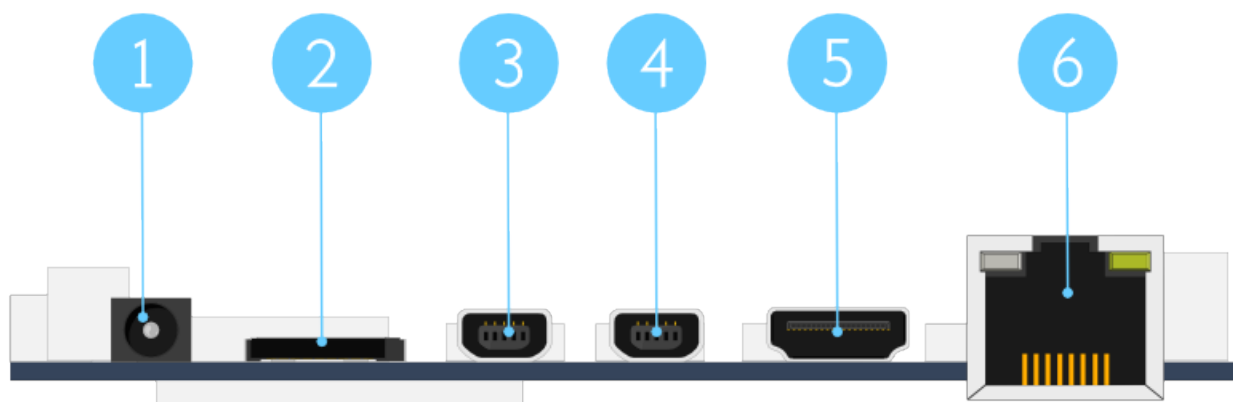


Fig. 3.1: External I/O ports

Layout diagram description table of external rear I/O ports:

Item	Description
1	CN12: DC-In jack
2	SD1: Micro SD card slot
3	USB2: Mini USB 2.0 port 2 (type AB port)
4	USB2: Mini USB 2.0 port 1 (type AB port)
5	HDMI1: Mini HDMI® port
6	LAN1: RJ-45 (Fast Ethernet) LAN port

#### 3.1.1 DC-In Jack

The mainboard comes with a coaxial power connector on the rear I/O panel adjacent to the Micro SD slot. The power connector carries +12VDC ~ +24VDC external power input. The specifications and pinout of the power connector are shown below.

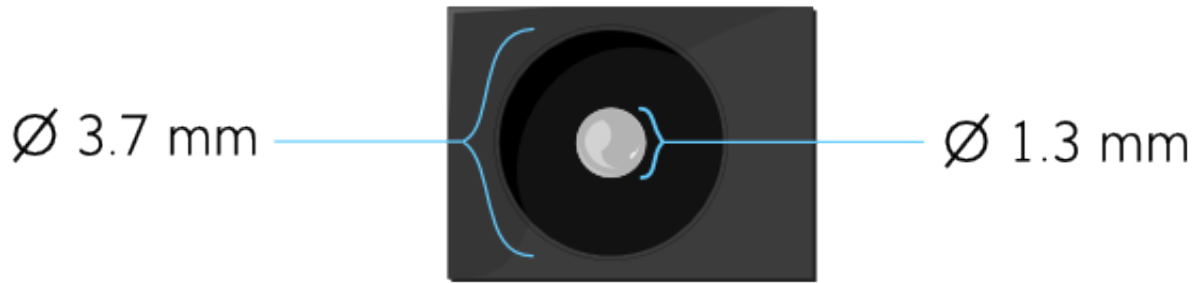


Fig. 3.2: DC-In jack diagram

Physical Specifications	
Outer Diameter	3.7 mm
Inner Diameter	1.3 mm
Barrel Depth	8.25 mm

Electrical Specifications	
Input Voltage	+12V ~ +24V

### 3.1.2 Micro SD Card Slot

The Micro SD card slot is located on the rear I/O panel, it offers expandable storage.



Fig. 3.3: Micro SD Card slot diagram

Micro SD Card slot pinout:

Pin	Signal
1	SD0DATA2
2	SD0DATA3
3	SD0CMD
4	VDD (3.3V)
5	SD0CLK
6	GND
7	SD0DATA0
8	SD0DATA1
9	SD0_CD

### 3.1.3 Mini USB 2.0 Port

There are two integrated Mini USB 2.0 ports located on the rear I/O panel. The Mini USB 2.0 interface port gives complete Plug and Play and hot swap capabilities for external devices and it complies with USB UHCI, rev. 2.0. Each

Mini USB port uses the USB Type AB receptacle port connector. The pinout of the typical Mini USB port is shown below.

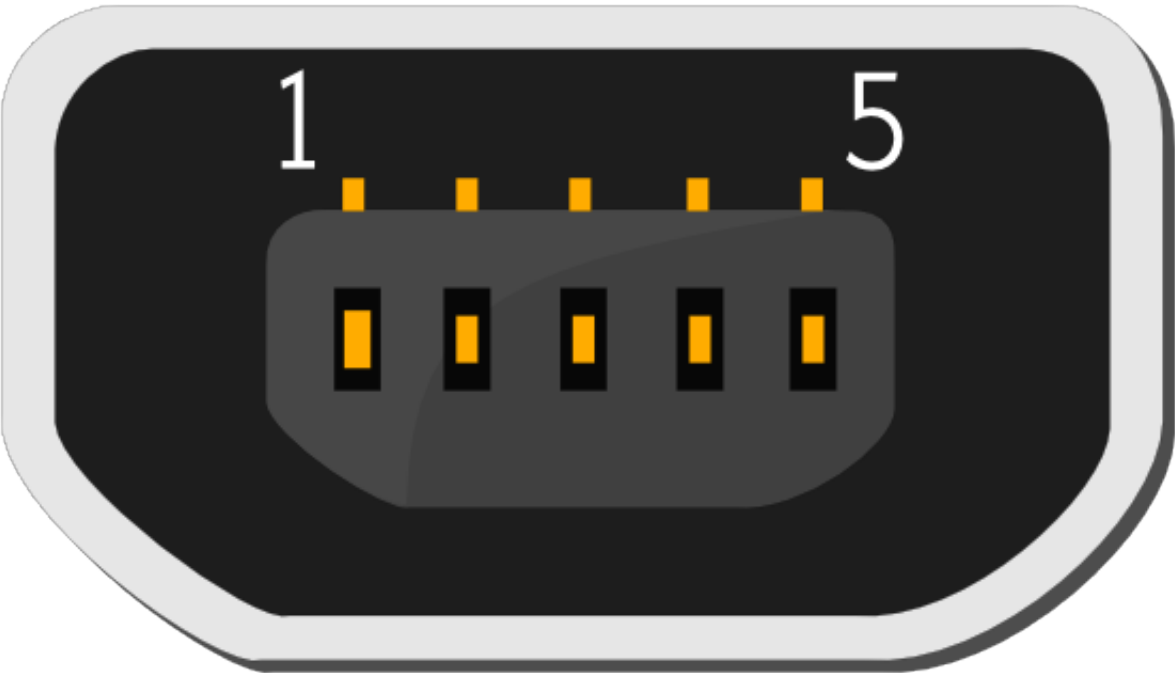


Fig. 3.4: Mini USB port diagram

Mini USB 2.0 port pinout:

Pin	Signal	Pin	Signal
1	VCC (+5V)	1	VCC (+5V)
2	USBH1-	2	USBH2-
3	USBH1+	3	USBH2+
4	ID (GND)	4	ID (GND)
5	GND	5	GND

### 3.1.4 Mini HDMI® Port

The integrated 19-pin Mini HDMI port uses an HDMI Type C receptacle connector as defined in the HDMI specification. The Mini HDMI port is for connecting to HDMI displays. The pinout of the Mini HDMI port is shown below.

Mini HDMI® port pinout:

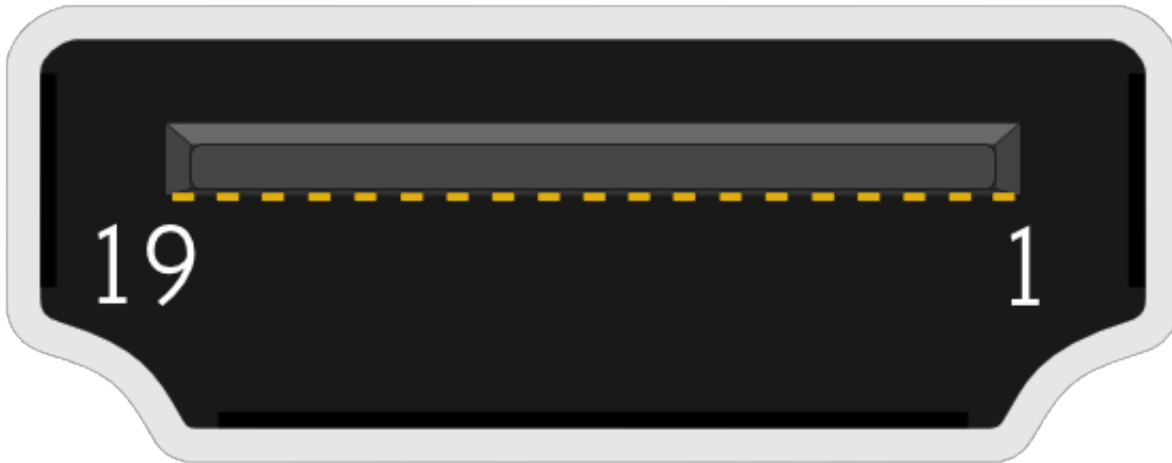


Fig. 3.5: Mini HDMI® port diagram

Pin	Signal	Pin	Signal
1	GND	2	LCD1DO2+
3	LCD1DO2-	4	GND
5	LCD1DO1+	6	LCD1DO1-
7	GND	8	LCD1DO0+
9	LCD1DO0-	10	GND
11	LCD1CLK+	12	LCD1CLK-
13	GND	14	HDMI_CECIN
15	DDCSCL	16	DDCSDA
17		18	VCC_5V
19	HPD		

### 3.1.5 RJ-45 LAN port (Fast Ethernet)

The integrated 8-pin Fast Ethernet port is using an 8 Position 8 Contact (8P8C) receptacle connector (commonly referred to as RJ-45). The Fast Ethernet ports are controlled by VIA VT6113 10/100 Base-TX PHY chip controller. The pinout of the Fast Ethernet port is shown below.

Fast Ethernet port pinout :

Pin	Signal
1	TD+
2	TD-
3	RD+
4	REGOUT
5	REGOUT
6	RD-
7	GND
8	GND

The RJ-45 port has two individual LED indicators located on the front side to show its Active/Link status and Speed status.

Fast Ethernet LED color definition:

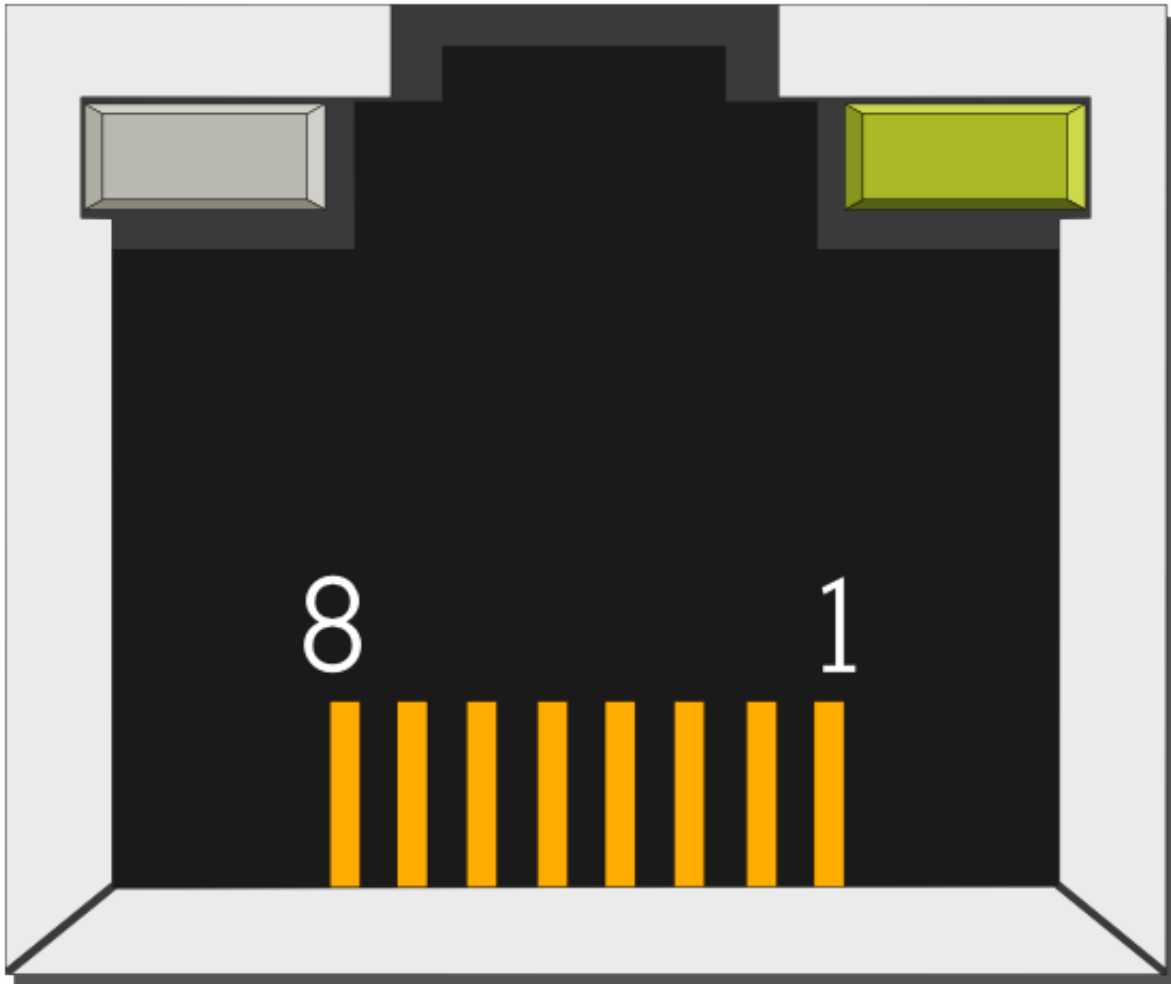


Fig. 3.6: Fast Ethernet port diagram

	Link LED (Left LED on RJ-45 connector)	Active LED (Right LED on RJ-45 connector)
Link Off	Off	Off
Speed_10Mbit	The LED is always On in dark color	Flash in Yellow or Orange color
Speed_100Mbit	The LED is always On in Red color	Flash in Yellow or Orange color

## 3.2 Onboard Connectors

### 3.2.1 DC-In Connector

The mainboard has an onboard DC-In 2-pin power connector to connect the DC-In power cable. The DC-In power connector is an optional power connector in addition to the DC-In jack on the rear IO panel. This provides two methods for delivering +12VDC ~ +24VDC to the mainboard. The pinout of the DC-In connector is shown below.

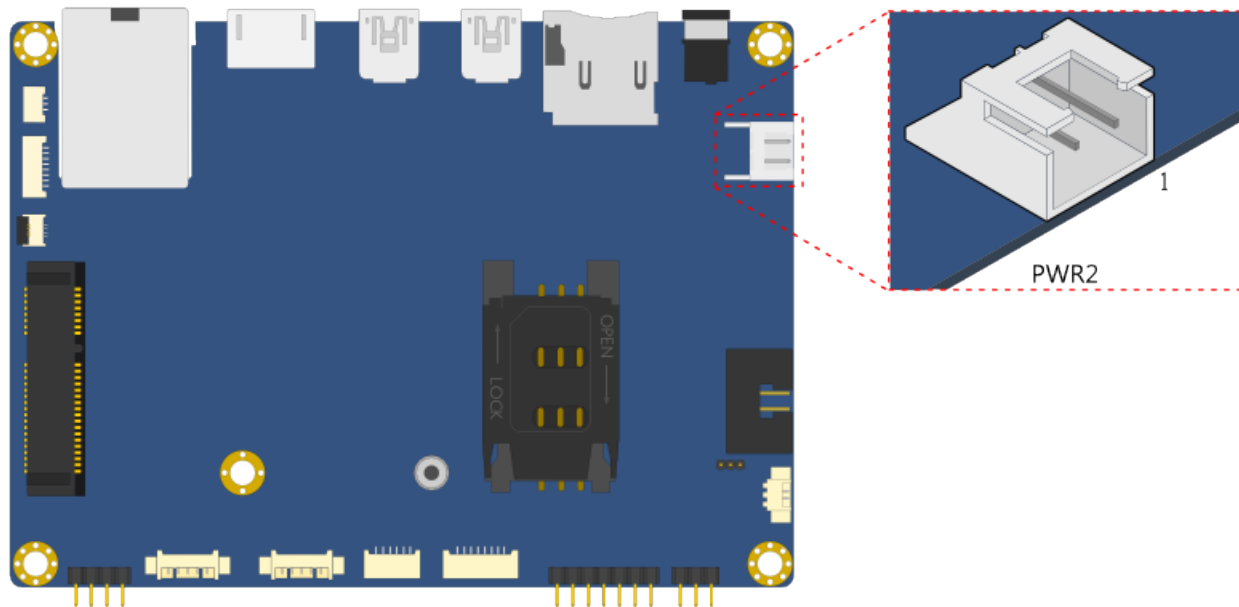


Fig. 3.7: DC-In connector diagram

DC-In connector pinout:

Pin	Signal
1	+12VDC ~ +24VDC
2	GND

### 3.2.2 SIM Card Slot

The mainboard is equipped with a SIM card slot located on the top side of the board which can support a 3G SIM card. Using the SIM card slot on VAB-600 requires a 3G module installed in the Mini Card expansion slot to enable the 3G function, otherwise the SIM card slot is disabled. The SIM card slot is designed only for 3G module without built-in SIM card slot on it. The SIM card slot is labeled as “SIM1”. The pinout of the slot is shown below.

SIM card slot pinout:



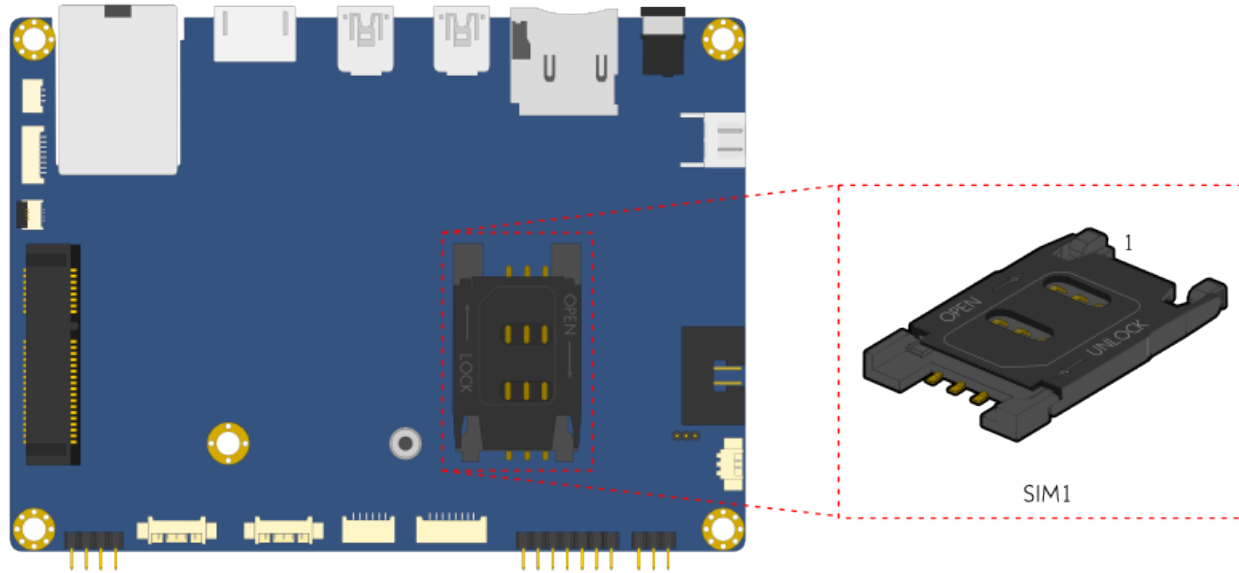


Fig. 3.8: SIM card slot diagram

Pin	Signal
1	USIM_VCC
2	USIM_RST
3	USIM_CLK
4	
5	GND
6	USIM_VPPSIM
7	USIM_DATA

### 3.2.3 Battery Charger Connector (Optional)

The mainboard is equipped with an onboard battery charger connector used for connecting the external cable for charging a rechargeable battery. The battery charger connector is labeled as “CN3”. The connector pinout is shown below.

Battery charger pinout:

Pin	Signal
1	Voltage detect
2	I2C0SCL
3	I2C0SDA
4	GND
5	Temperature Detect

### 3.2.4 RTC Battery Connector

The mainboard is equipped with an onboard RTC battery connector used for connecting the external cable battery that provides power to the 32.768KHz crystal oscillator for Real Time Clock (RTC). The RTC battery connector is labeled as “BAT1”. The connector pinout is shown below.

RTC Battery connector pinout:

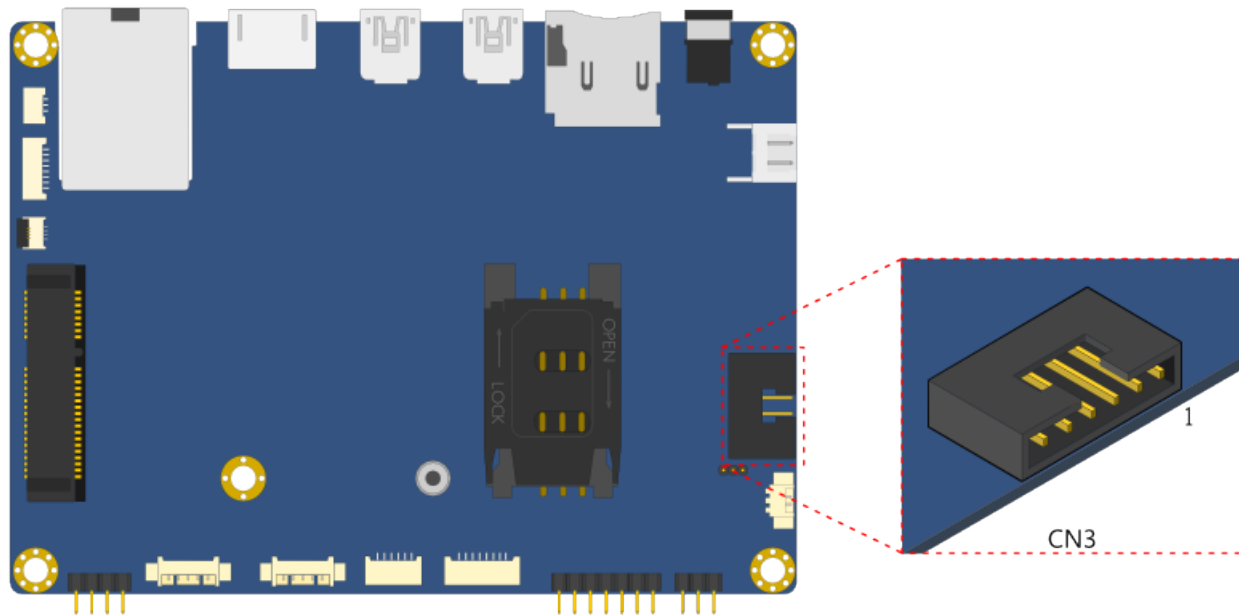


Fig. 3.9: Battery Charger connector diagram

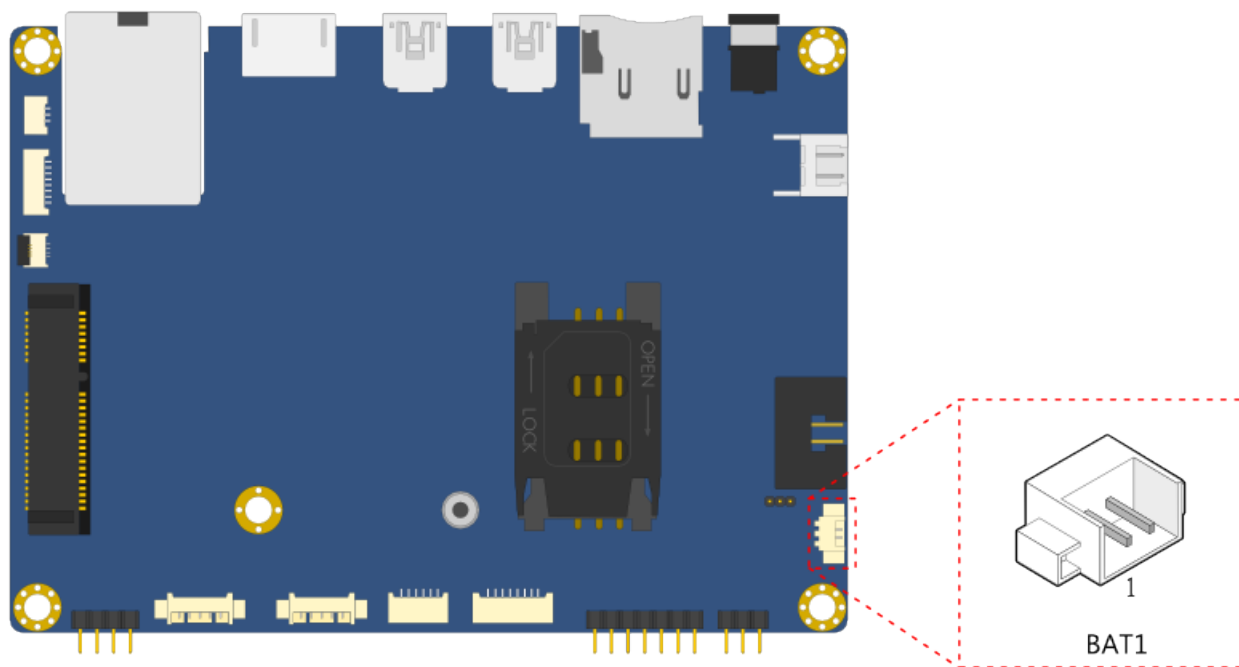


Fig. 3.10: RTC Battery connector diagram

Pin	Signal
1	+VBAT
2	GND

### 3.2.5 Front Panel Pin Header

The front panel pin header block consists of 6 pins. It provides access to the system power LED, power switch and shut down switch. The front panel pin header is labeled as “CN7”. The pinout of the pin header is shown below.

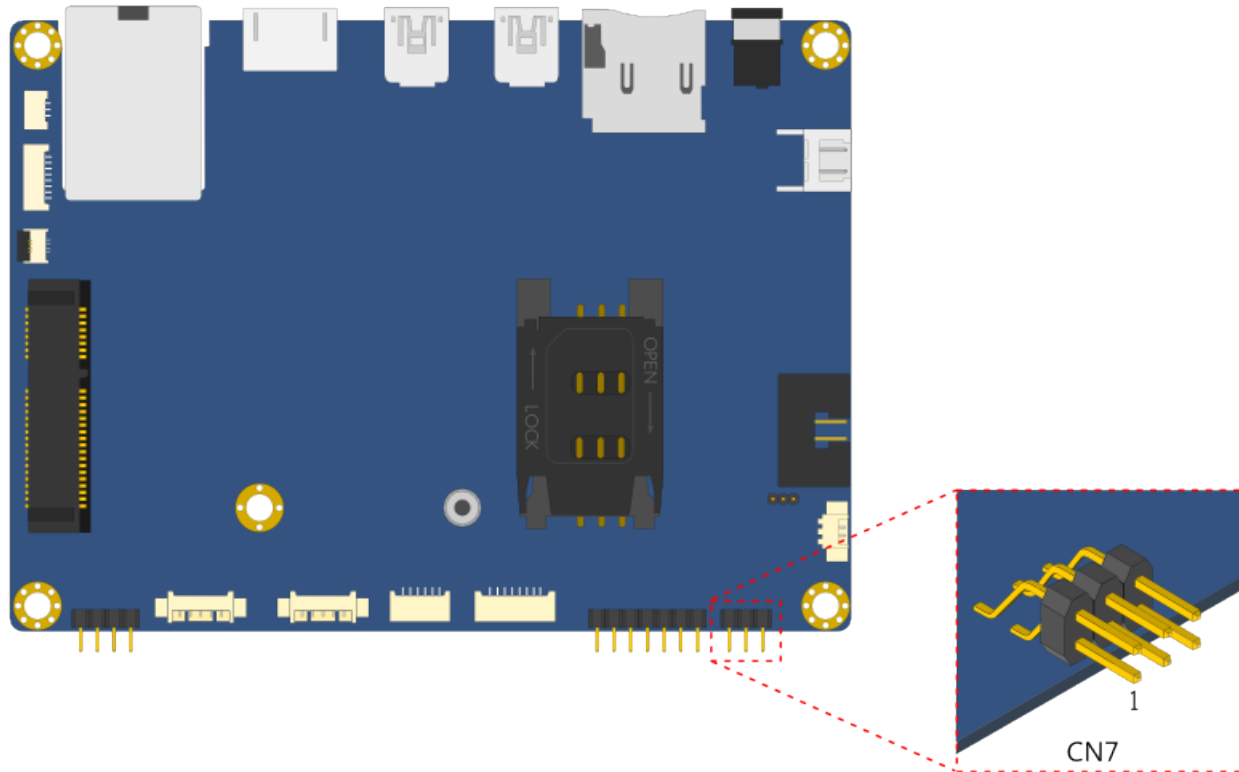


Fig. 3.11: Front Panel pin header diagram

Front Panel pin header pinout:

Pin	Signal	Pin	Signal
1	PWR_LED	2	GND
3	PWRBTN-	4	GND
5	RESET1	6	GND

**Note:** Although the signal name for pin#5 is “RESET1”, its function is “shut down”.

### 3.2.6 GPIO and I<sup>2</sup>C Pin Header

The GPIO and I<sup>2</sup>C combination pin header block labeled as “CN9” is used for connecting the I<sup>2</sup>C device, and eight General Purpose Input and Output. The pinout of the combination pin header is shown below.

GPIO and I<sup>2</sup>C pin header pinout:

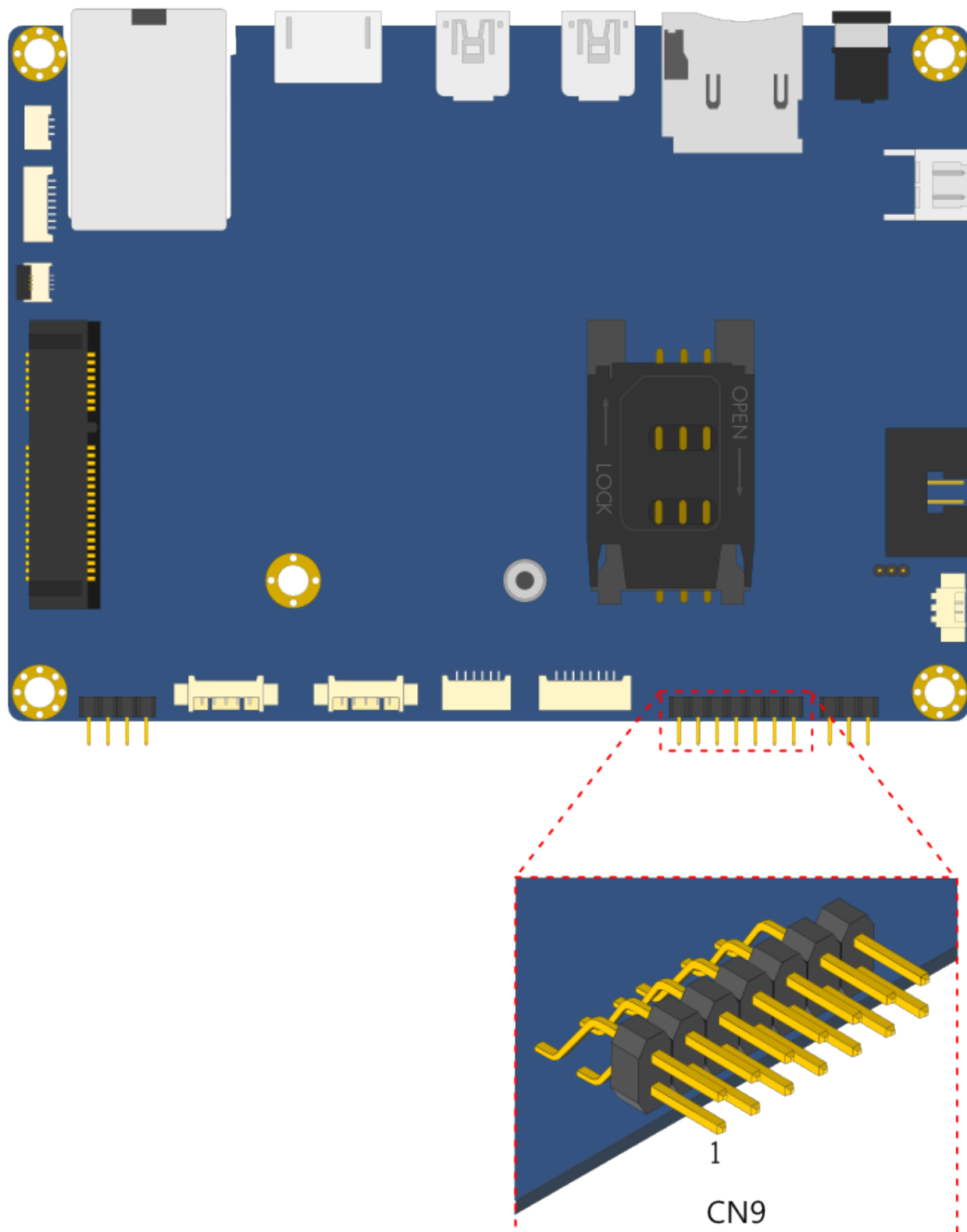


Fig. 3.12: GPIO and I<sup>2</sup>C pin header diagram

Pin	Signal	Pin	Signal
1	VCC33	2	VCC_5V
3	GND	4	VSUS33
5	GPI20_CH	6	GPIO24_CH
7	GPIO21	8	GPIO25
9	GPIO_22	10	GPIO_26
11	GPIO_23	12	GPIO_27
13	I2C0SDA	14	I2C0SCL

### 3.2.7 SPI Flash Connector

The mainboard has one 8-pin SPI flash connector. By connecting to the SPI BIOS programming fixture, the SPI (Serial Peripheral Interface) flash connector can update the SPI flash ROM. The connector is labeled as “SPI1”. The pinout of the connector is shown below.

SPI Flash connector pinout:

Pin	Signal
1	
2	SFCS1 (Reserved)
3	SFDO
4	SFDI
5	SFCLK
6	SFCS0-
7	GND
8	VPROG_SP1 (3.3V)

### 3.2.8 USB Connector

The mainboard includes one onboard USB connector designed for connecting the wireless LAN USB module. The connector is labeled as “CN11”. The pinout of the connector is shown below.

USB connector pinout:

Pin	Signal
1	+5V
2	USBH3-
3	USBH3+
4	GND
5	USB_WIFI_LED
6	GPIO_4

### 3.2.9 COM Connector

There are two onboard COM connectors on the top side of the mainboard. The COM connectors labeled as “COM1” and “COM2” are used to attach additional COM port that supports Tx/Rx. The pinout of the COM connectors are shown below.

COM connector pinout:

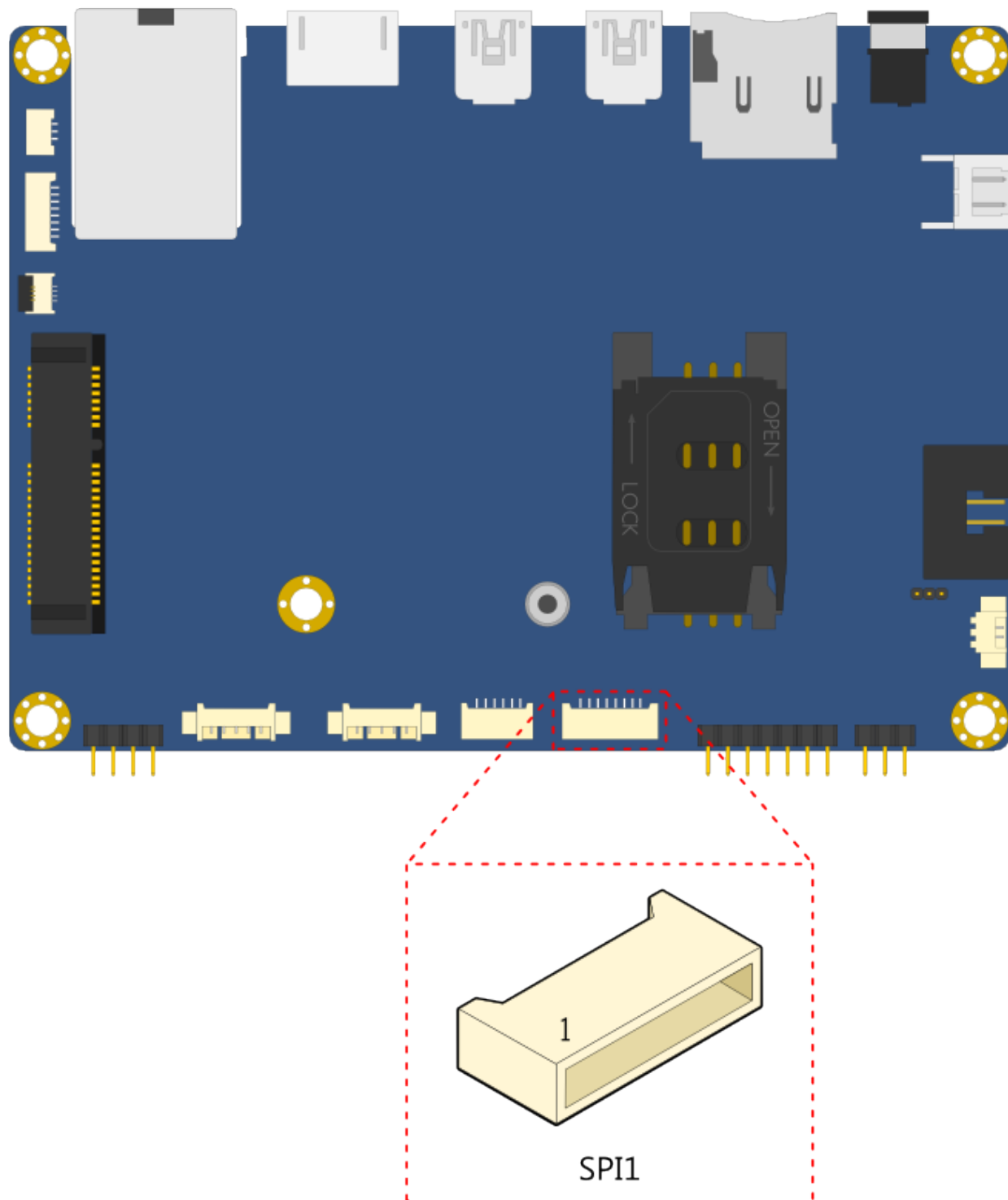


Fig. 3.13: SPI Flash connector diagram

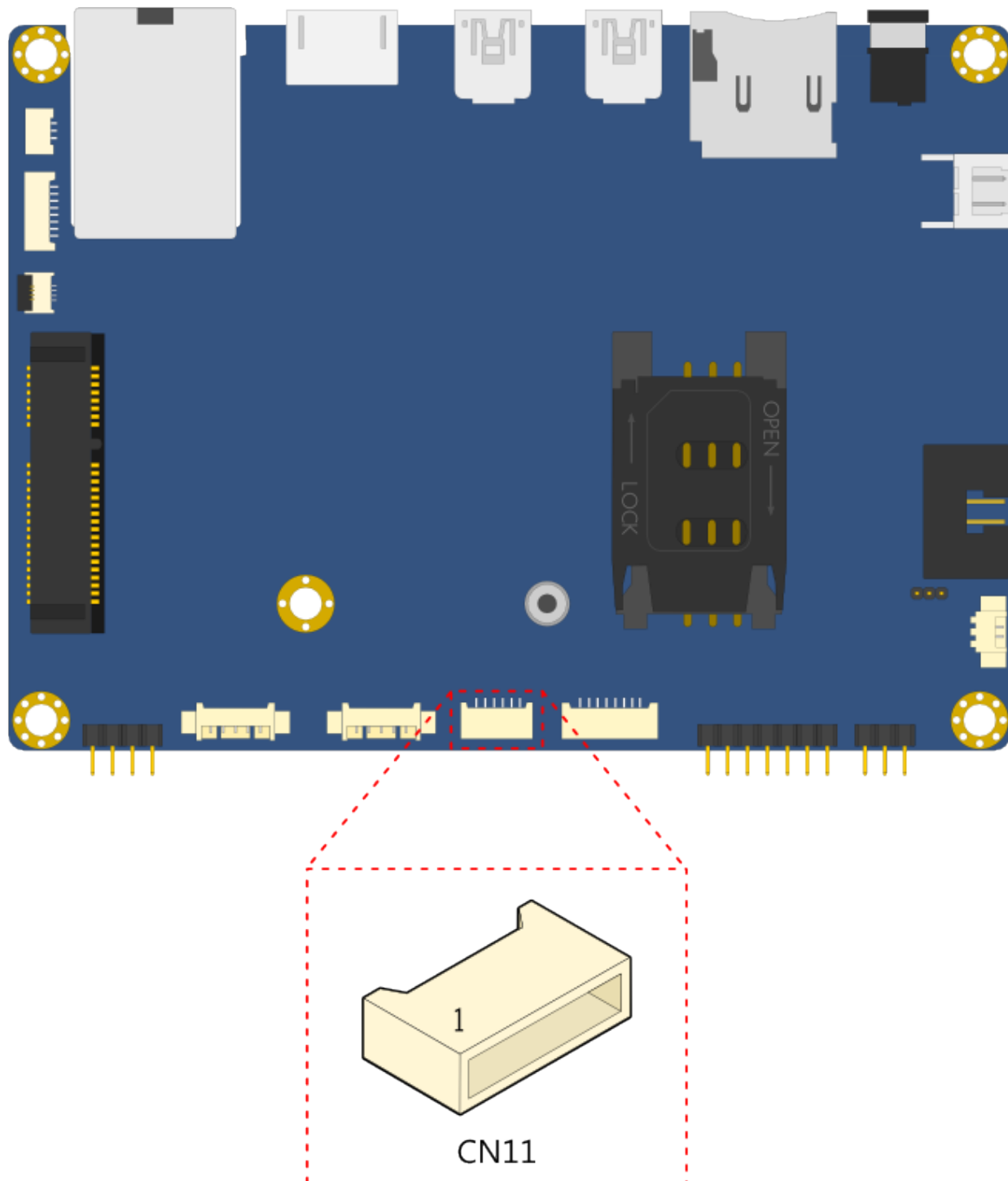


Fig. 3.14: USB connector diagram

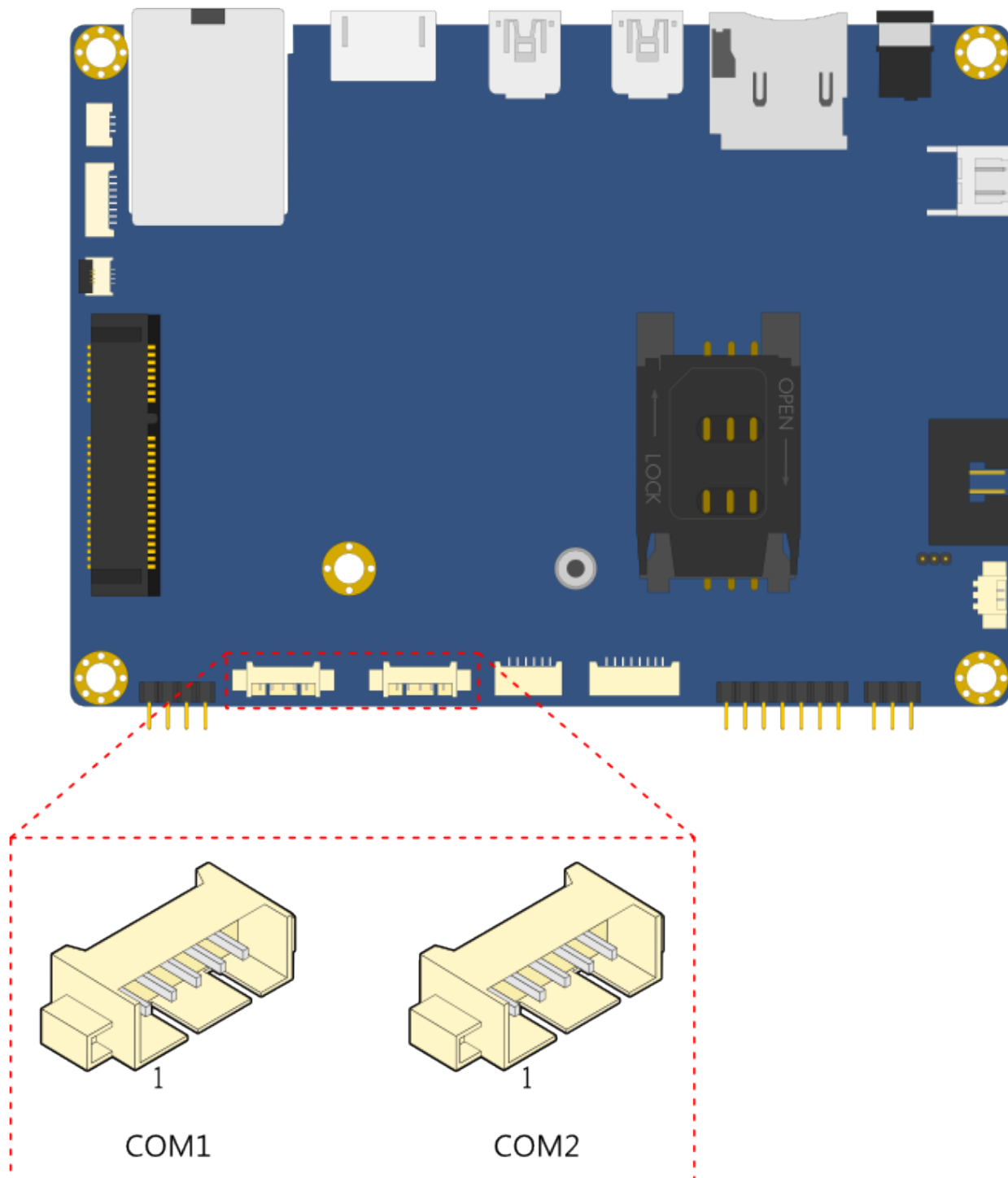


Fig. 3.15: COM connector diagram



COM1		COM2	
Pin	Signal	Pin	Signal
1	TXD0	1	TXD2
2	RXD0	2	RXD2
3	GND	3	GND
4	RTS0	4	RTS2
5	CTS0	5	CTS2

### 3.2.10 Front Audio Pin Header

The mainboard has a front audio pin header for connecting the Line-Out, Line- In and Mic-In jacks. The pin header is labeled as “CN8”. The pinout of the pin header is shown below.

Front audio pin header pinout:

Pin	Signal	Pin	Signal
1	LINEIN_R	2	GND
3	LINEIN_L	4	MICIN1
5	LINEOUT_R	6	MICIN2
7	LINEOUT_L	8	HP_DET

### 3.2.11 Mini Card Slot

The VAB-600 mainboard is equipped with a Mini card expansion slot labeled as “CN2”. The Mini card slot is used to attach the USB connectivity 3G module to provide 3G function. The pinout of the slot is shown below.

Mini Card slot pinout:

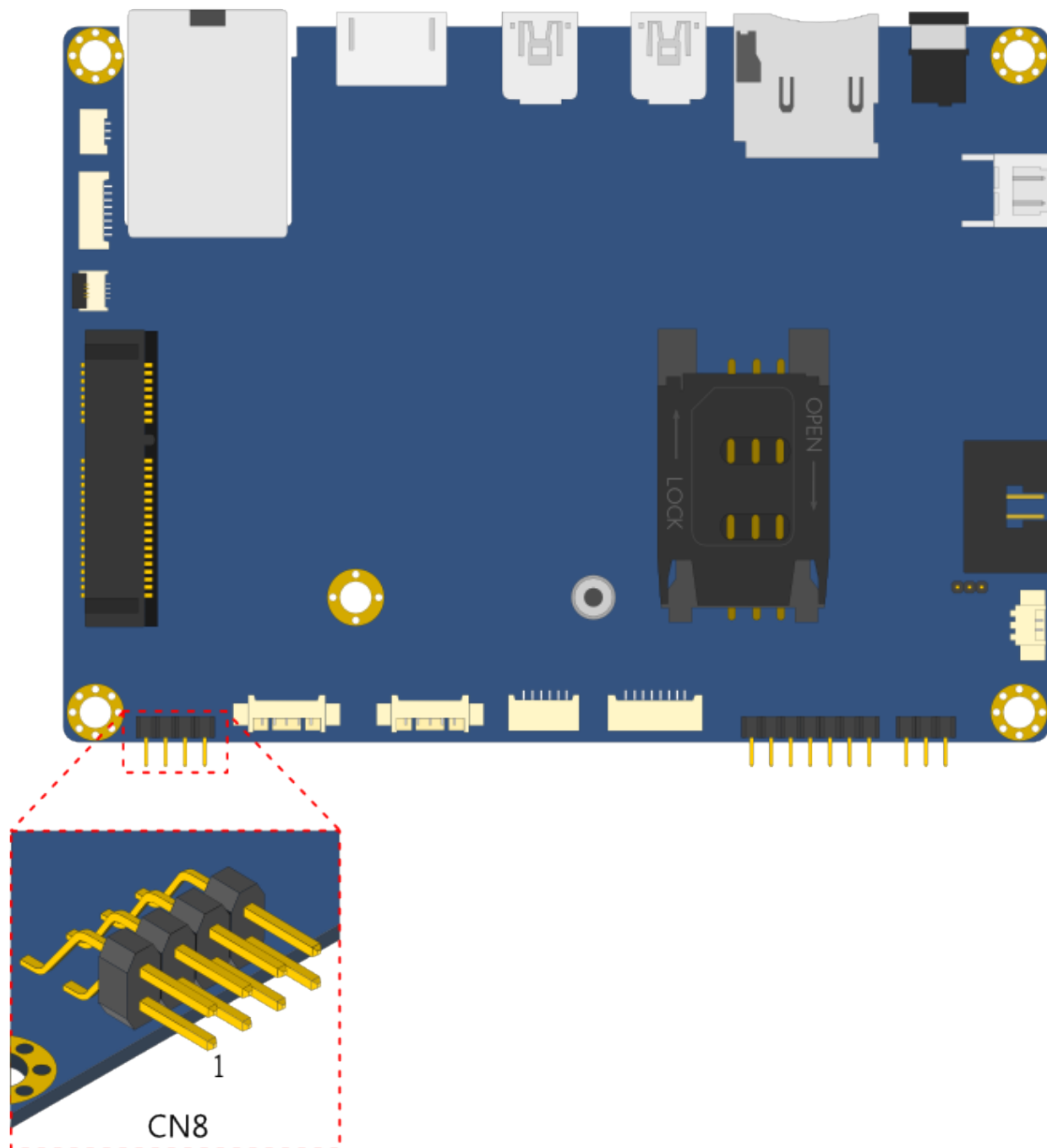


Fig. 3.16: Front audio pin header diagram

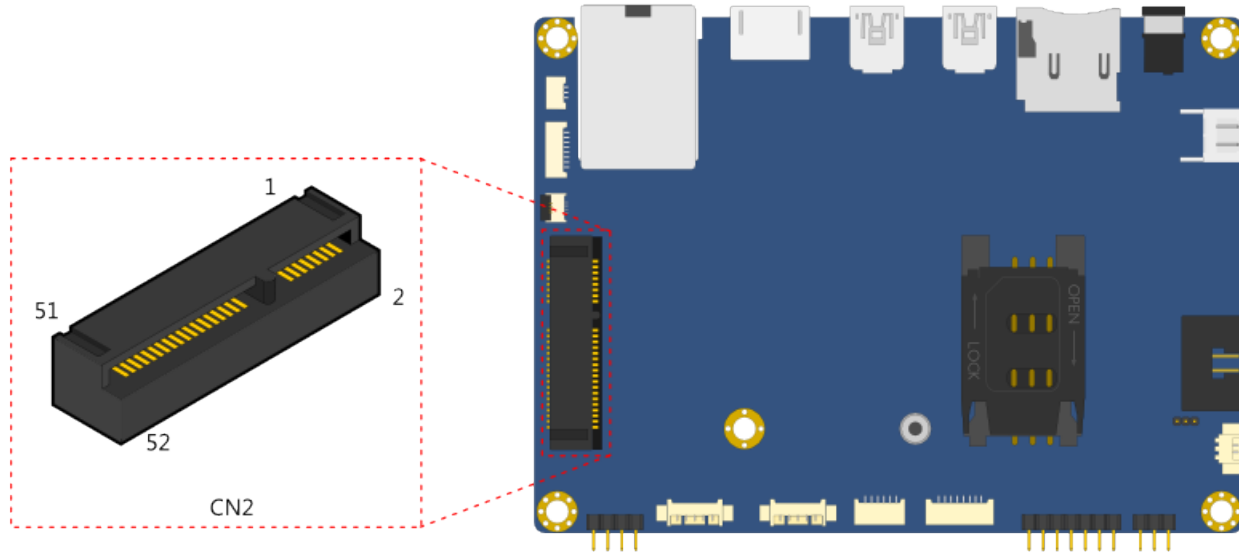


Fig. 3.17: Mini Card slot diagram

Pin	Signal	Pin	Signal
1		2	VSUS33
3		4	GND
5		6	+1.5V
7		8	USIM_VCC
9	GND	10	USIM_DATA
11		12	USIM_CLK
13		14	USIM_RST
15	GND	16	USIM_VPP
17		18	GND
19		20	-W_DISABLE_1
21	GND	22	-PEX1_RST
23		24	VSUS33
25		26	GND
27	GND	28	+1.5V
29	GND	30	I2C0SCL
31		32	I2C0SDA
33		34	GND
35	GND	36	USBHD_0-
37	GND	38	USBHD_0+
39	VSUS33	40	GND
41	VSUS33	42	LED_WWAN1-
43	GND	44	LED_WLAN1-
45		46	LED_WPAN1-
47		48	+1.5V
49		50	GND
51		52	VSUS33

### 3.2.12 4-Wire Resistive Touch Screen Connector

The mainboard is equipped with a touch screen connector for connecting the 4-wire resistive touch panel. The touch screen connector is labeled as “TS1”. The pinout of the connector is shown below.

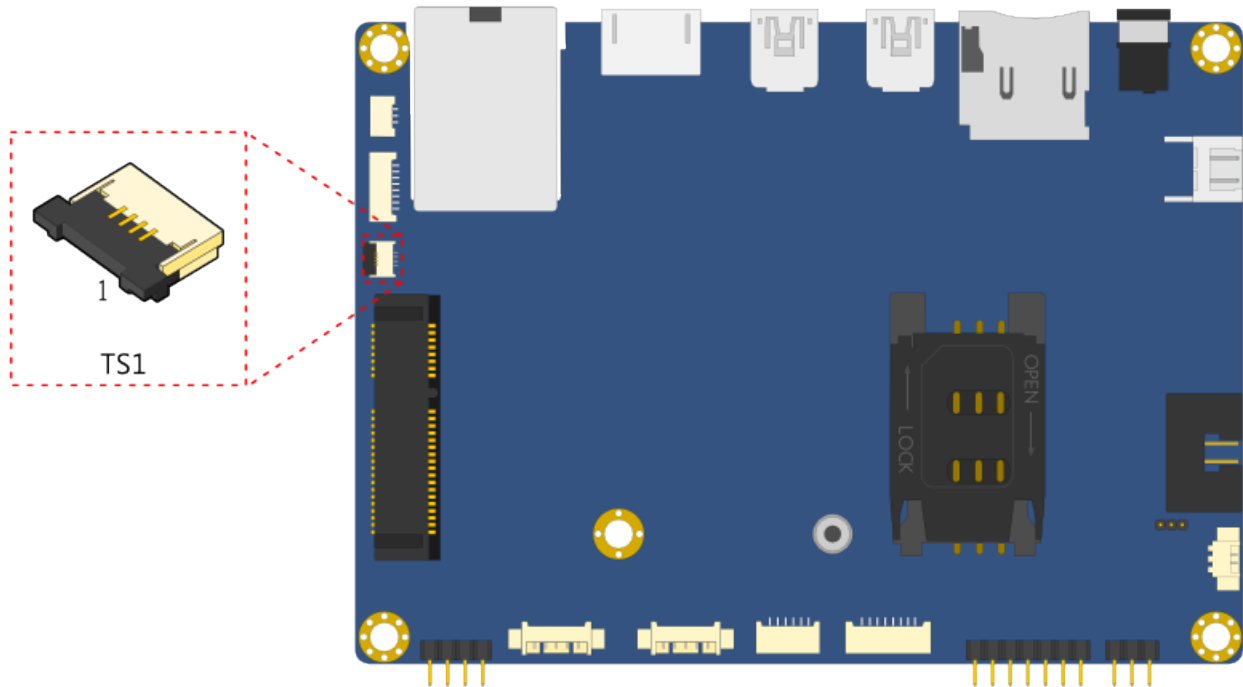


Fig. 3.18: 4-Wire Resistive Touch Screen connector diagram

4-Wire Resistive Touch Screen connector pinout:

Pin	Signal
1	TPXP
2	TPYP
3	TPXM
4	TPYM

### 3.2.13 Key PAD Connector

The mainboard is equipped with a Key PAD connector for connecting the keypad device. The connector is labeled as “KPAD1”. The pinout of the connector is shown below.

Key PAD connector pinout:

Pin	Signal
1	VCC33
2	KPADROW0
3	KPADROW1
4	KPADROW2
5	KPADROW3
6	KPADROW4
7	GND

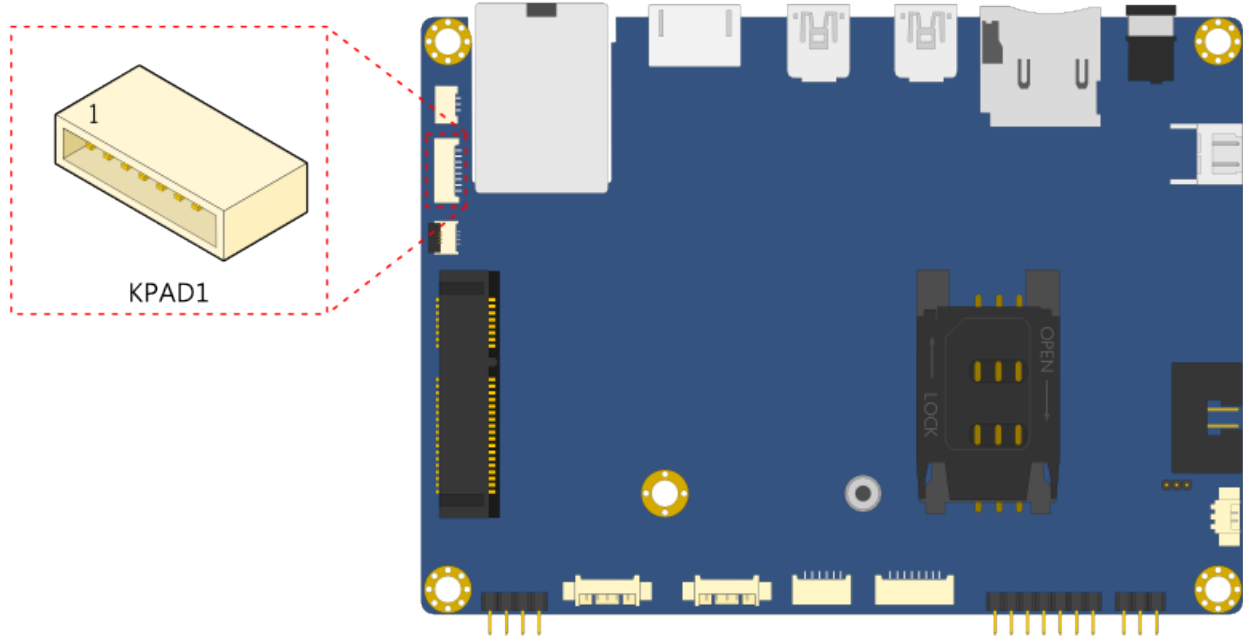


Fig. 3.19: Key PAD Connector diagram

### 3.2.14 CIR Connector

The mainboard provides a CIR (Consumer Infrared Receiver) connector on the top side of the board. The CIR connector is used to connect the infrared receiver module to enable infrared wireless interface. The pinout of the CIR connector is shown below.

CIR connector pinout:

Pin	Signal
1	VSUS33
2	GND
3	CIR

### 3.2.15 DVO Connector

The DVO (Digital Video Output) connector works as an interface for multidisplay devices. This connector allows the mainboard to connect an additional daughter card which is required for a certain display such as TTL or LVDS display. The DVO connector is labeled as “CN13”. The pinout of the connector is shown below.

DVO connector pinout:

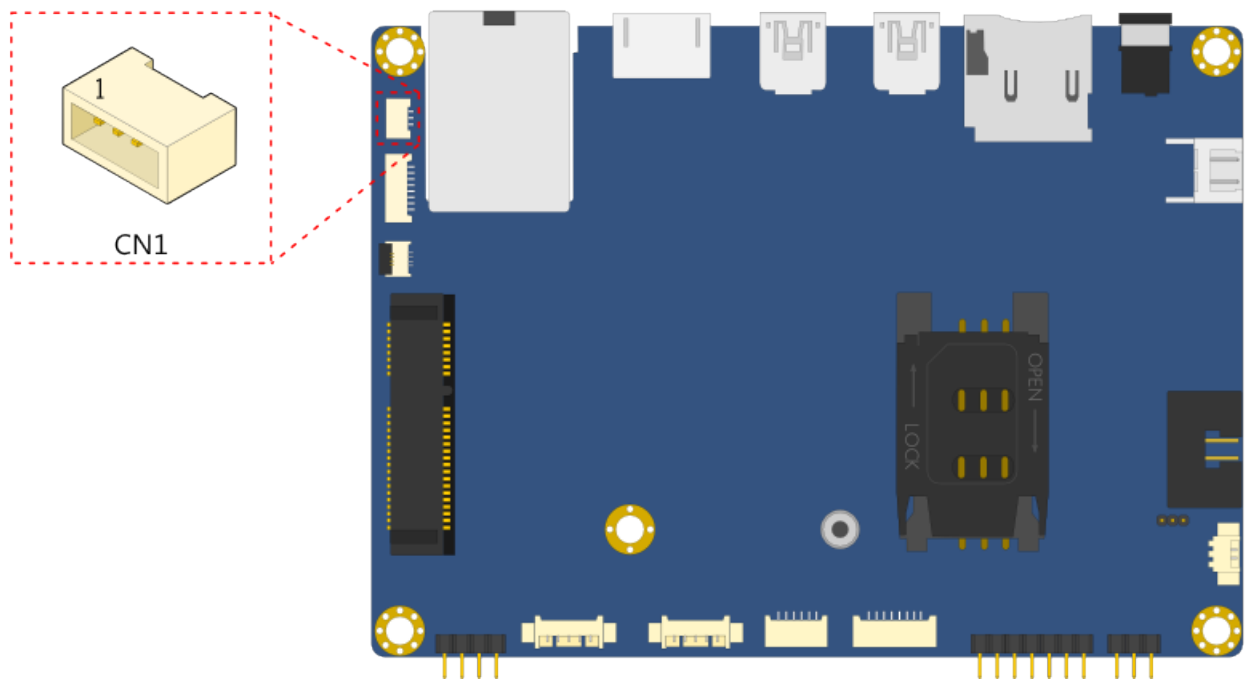


Fig. 3.20: CIR connector diagram

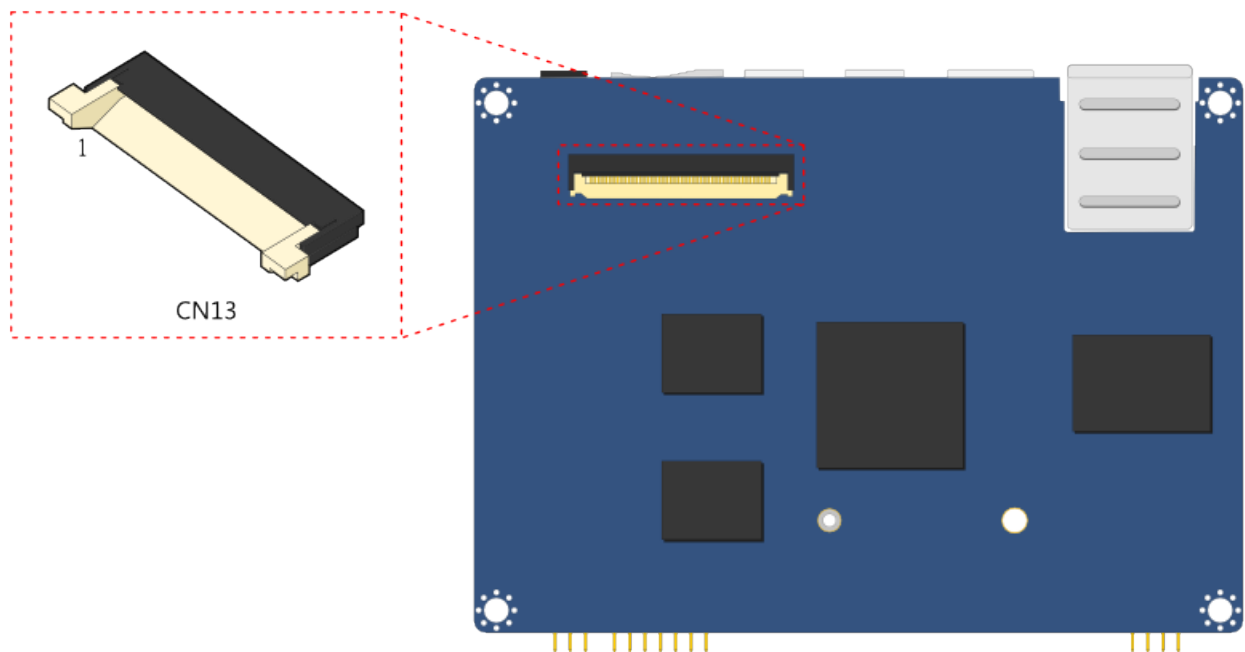


Fig. 3.21: DVO connector diagram

Pin	Signal	Pin	Signal
1	VCC33	26	LD15
2	VCC33	27	GND
3	VCC33	28	LD16
4	5VIN	29	LD17
5	5VIN	30	LD18
6	5VIN	31	LD19
7	VIN (DC-In/Battery)	32	LD20
8	VIN (DC-In/Battery)	33	LD21
9	GND	34	LD22
10	LD00	35	LD23
11	LD01	36	GND
12	LD02	37	DVP1CLK+
13	LD03	38	GND
14	LD04	39	DVPHS
15	LD05	40	DVPVS
16	LD06	41	DVPDE
17	LD07	42	PWMOUT0
18	GND	43	TTL_RST
19	LD08	44	I2C0SCL
20	LD09	45	I2C0SDA
21	LD10	46	DVO_CLK
22	LD11	47	DVO_DATA
23	LD12	48	LVDSENBL
24	LD13	49	LVDSENVDD
25	LD14	50	GND

**Warning:** Please DO NOT plug/unplug a DVO flex cable to /from a DVO connector (CN13) when the system is powered-ON or running.





## Jumpers

### 4.1 Power On Select Jumper

The Power On Select jumper is used to enable or disable the auto power On function when plug-in the power adaptor. The jumper is labeled as “JM3”. The jumper settings are shown below.

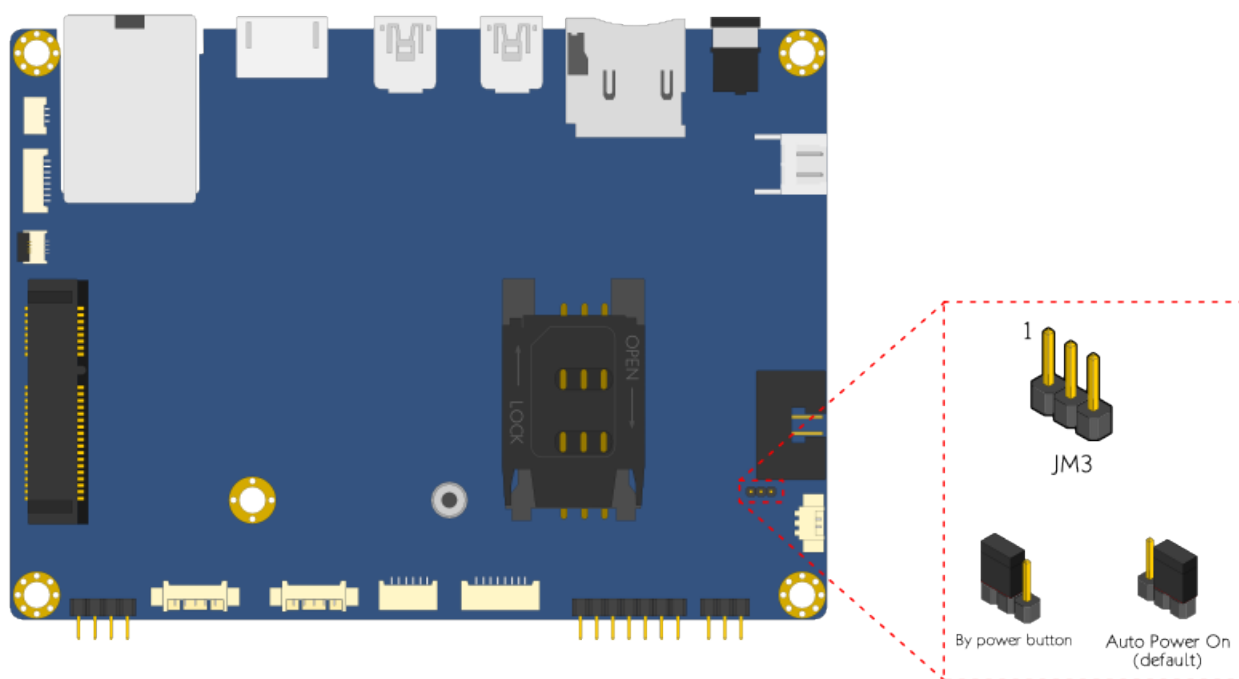


Fig. 4.1: Power On select jumper

Power On select jumper settings:

Settings	Pin 1	Pin 2	Pin 3
Auto Power On (default)	Open	Close	Close
By power button	Close	Close	Open



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## Hardware Installation

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### 5.1 Installing 3G Module on Mini Card Slot

#### 5.1.1 Step 1

Align the notch of 3G module with the notch on Mini Card slot. Then insert the 3G module into the Mini Card slot at 20 degree angle.

#### 5.1.2 Step 2

Gently push down the rear side of the 3G module until the two screw holes on the module have been aligned and seated on the mounting holes of the board. Then secure the 3G module with two 6mm screws.

### 5.2 Inserting 3G SIM Card on SIM Card Slot

The onboard SIM card slot is automatically enabled when the 3G module (without built-in SIM card slot) has been installed in the Mini Card expansion slot.

#### 5.2.1 Step 1

Push back firmly the SIM card slot to unlock and open. Pull up the slot and place the 3G SIM card.

---

**Note:** Ensure the angled corner of the SIM card is placed in the correct way before closing the slot.

---

#### 5.2.2 Step 2

Gently close the slot by pulling down the slot containing the 3G SIM card, and then carefully lock the SIM slot.

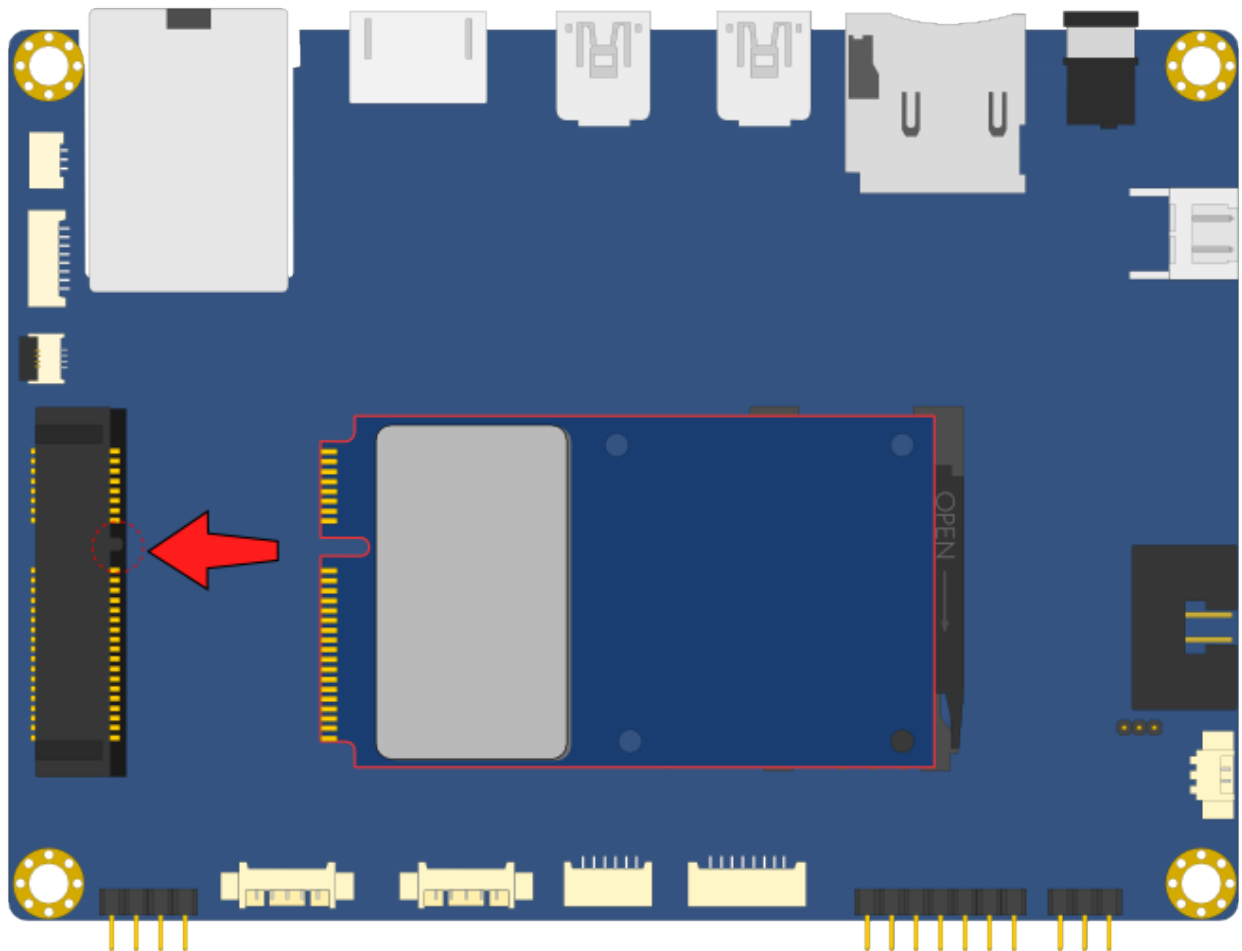


Fig. 5.1: Inserting the 3G module

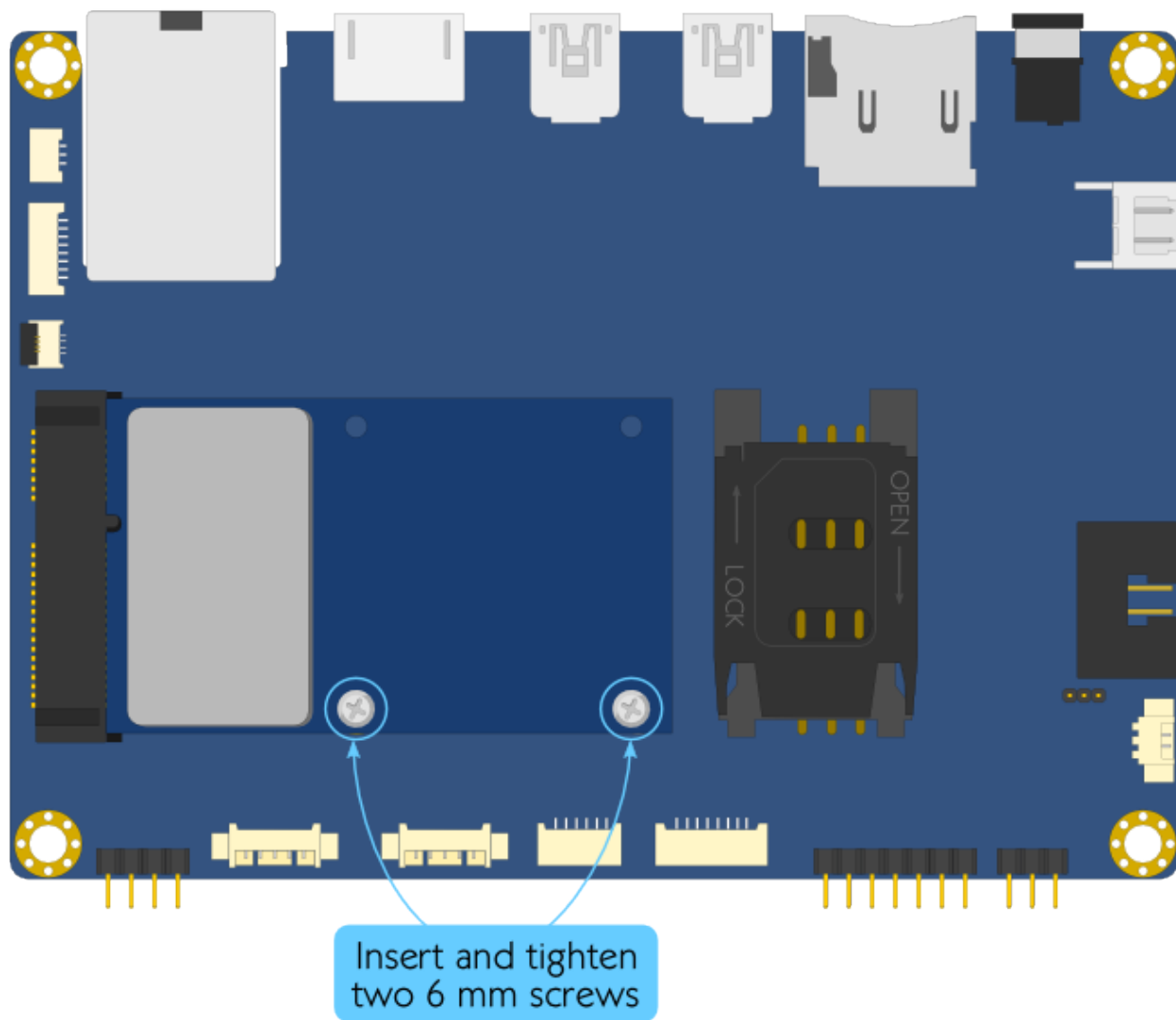


Fig. 5.2: Securing the 3G module

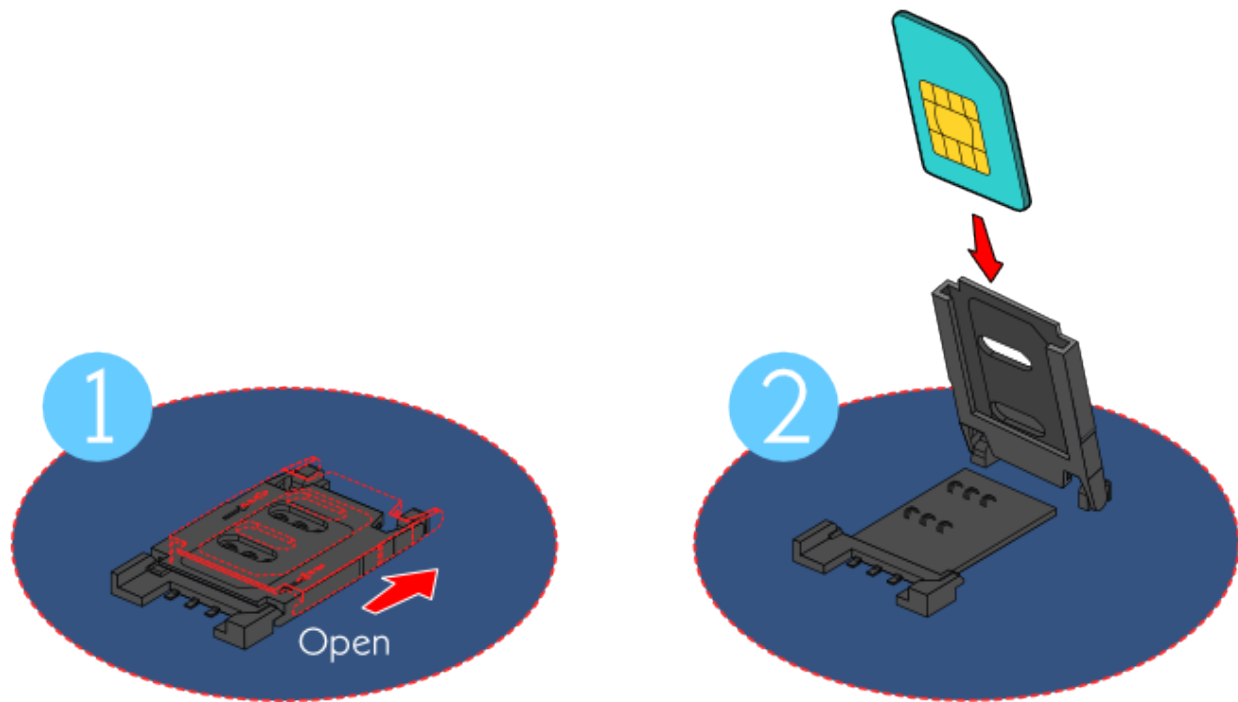


Fig. 5.3: Opening and inserting 3G SIM card

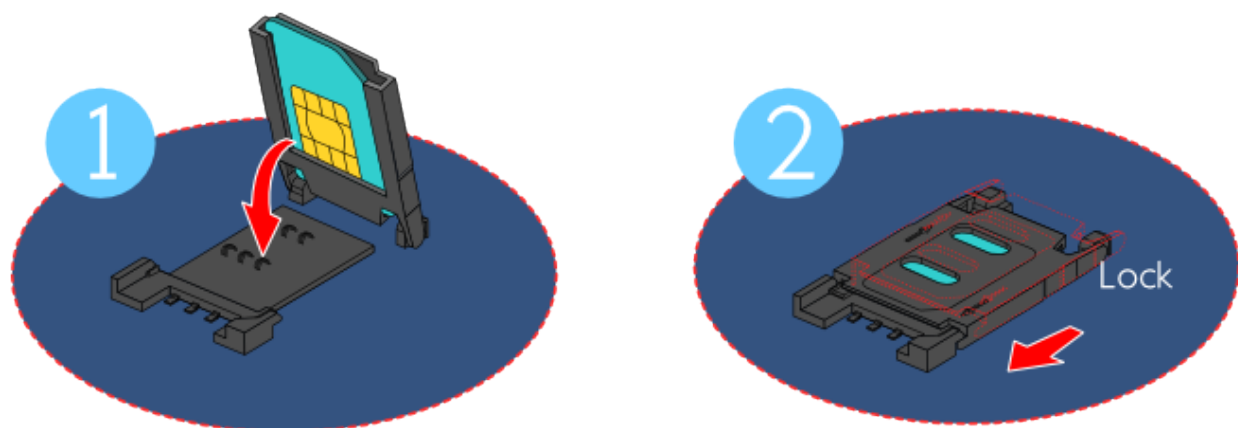


Fig. 5.4: Locking the 3G SIM card slot

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## Driver Installation

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### 6.1 Android Driver Support

The VIA VAB-600 mainboard is compatible with Android 4.0 operating systems. The latest drivers can be downloaded from the [VIA Springboard website](#).

### 6.2 Linux Driver Support

The VIA VAB-600 mainboard is highly compatible with Linux Kernel 3.0.8. Support and drivers are provided through various methods including:

- Drivers provided by VIA
- Using a driver built into a distribution package
- Visiting <http://www.viaspringboard.com> for the latest updated drivers
- Installing a third party driver

For OEM clients and system integrators developing a product for long term production, other code and resources may also be made available. Contact VIA Embedded to submit a request.

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**Note:** This section is under development. Further driver support information will be added as it becomes available.

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## Mating Pin Header and Connector Vendor Lists

The following tables listed the mating pin headers and connectors vendor lists.

Label	Function	Pins	Vendor	Part No.
CN12	DC-In jack	3	<a href="#">KYOYAKU</a>	KYP-020-06MB
PWR2	DC-In connector	2	<a href="#">NELTRON</a>	2317RJ-02
SD1	Micro SD card slot	9	<a href="#">KTS</a>	C40KDH-081T-12DL
USB 1&2	Mini USB AB Type ports	5	<a href="#">NELTRON</a>	5075ABMR-05-SM-CR
HDMI1	Mini HDMI port	19	<a href="#">FREEPORT</a>	60U019S-354N-A1
LAN1	RJ-45 Fast Ethernet port	8	<a href="#">UDE</a>	RS3-26401D1F
CN1	CIR Receiver Module connector	3	ACES	88460-0301
KPAD1	Key PAD connector	7	ACES	88460-0701
TS1	Touch Screen connector	4	ACES	50500-00441-001
CN2	Mini Card slot	52	<a href="#">DRAGONSTATE</a>	0710A0BA68B
SIM1	SIM Card slot	7	<a href="#">FCI</a>	7111S2015X02LF
CN8	Front Audio pin header	8	<a href="#">PINREX</a>	22W-97-04GB21
COM 1&2	COM connectors	5	ACES	85204-0500L
CN11	USB connector	6	ACES	87213-0600G
SPI1	SPI Flash connector	8	ACES	87213-0800G
CN9	GPIO/I2C pin header	14	<a href="#">PINREX</a>	22W-97-07GB21
CN7	Front Panel pin header	6	<a href="#">PINREX</a>	22W-97-03GB21
CN3	Battery Charger connector	5	ACES	50299-00501-001
CN13	DVO connector	50	ACES	50501-05040-001
JM3	Power On Select jumper	3	<a href="#">NELTRON</a>	2199SA-03G-301523
BAT1	RTC Battery connector	2	<a href="#">NELTRON</a>	1251R-02-SM1-TR-F5



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## Indices and tables

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- `genindex`
- `modindex`
- `search`